5G, Edge, IoT & Embedded
Building Block Solutions

Connecting the Intelligent World from Devices to the Cloud
Long-life Cycle · High-Efficiency · Compact Form Factor · High Performance · Global Services

Smart Cities & Spaces
5G & TELCO
Industrial
Energy & Power
Retail & Foodservice
Smart Healthcare

Hyper-E
Ultra Short-Depth
Outdoor Edge
Rackmount
Wall-Mount
IPC
SuperEdge
Fanless Compact
Fanless Gateway

Supermicro Building Block Solutions for 5G Networks, the Intelligent Edge, and Embedded Applications

May 2023
Vertically Driven – Horizontally Focused

The Supermicro portfolio spans from data center-class performance with the latest 3rd Gen Intel® Xeon® Scalable processors and NVIDIA Ampere GPUs down to embedded-optimized Intel® Atom® and Core SoCs. 5G/Edge systems now part of Supermicro’s Global SKU program.

Supermicro Strengths and Highlights

Supermicro commitment to Telco requirements and demanding environments:

- World-class engineering delivering rapid time-to-market solutions
- Complete platform encompassing Edge – Core – Cloud
- Enhanced scalability & flexibility vs traditional siloed, bare metal, approaches
- High availability and resiliency in architecture enabling non-disruptive upgrades
- Cost effective: procure infrastructure components as needed
- Easily adapted to meet new performance demands
- Flexibility with incorporating new technologies: allows for heterogeneous environments
- Commercial flexibility: OpEx platform as a service (PaaS)
- Extensive partner network: deployment, servicing, B2B relationships
- Integration, lab, and engineering services
- Telecom-compliant systems: NEBS Level 3 certification, DC power supply options, short-depth chassis, front I/O, IP65-rated enclosures
Optimized Platform for 5G/Telco Applications

Highlight Systems

- **SuperEdge**
  - SYS-210TP-HPTR
  - SYS-211SE-31A
  - SYS-211E-FRN2T
- **SuperEdge**
  - SYS-211SE-31D
  - SYS-211E-FRDN2T
- **Hyper-E**
  - SYS-221HE-FTNR
  - SYS-221HE-FTNRD
- **Edge Rackmount 2U**
  - SY8-211E-FRN2T
  - SY8-211E-FRDN2T
- **Edge Rackmount 1U**
  - SY1-211E-FWTR
  - SY1-211E-FDWTR
- **Outdoor Edge**
  - SY8-403-9D-16C-IPD2
  - SY8-403-9D-14CN-IPD2
  - SY8-403-9D-16C-IP

Solutions

- 5G and LTE virtual RAN including O-RAN DU and CU
- Multi-access Edge computing (MEC) with AI accelerators, VPUs, and FPGAs
Intelligent Retail and Foodservice

- Providing disruptive AI-based solutions to help retailers, hospitality, and restaurants to take advantage of technological and societal advancements
- Improving customer experience using AI, augmented/virtual reality, digital signage, kiosks, and analytics
- Support for highly secure, Zero Trust, high availability systems to provide complete, optimized solutions – ensuring 100% uptime

Highlight Systems

- **SYS-E403-12P-FN2T**
  - Configurable wall-mount Edge server with 3rd Gen Intel® Xeon® Scalable processor
- **SYS-111E-FWTR**
  - Short-depth rackmount Edge server with 4th Gen Intel® Xeon® Scalable processor
- **SYS-211E-FRN2T**
  - Ultra short-depth rackmount Edge server with 4th Gen Intel® Xeon® Scalable processor
- **SYS-E300-12D**
  - Compact server with Intel® Xeon® D processor
- **SYS-E302-13AD**
  - Ruggedized compact fanless server with Intel® Atom® processor
- **SYS-E100-13AD**
  - Ruggedized ultra-compact fanless server with Intel® Core™ processor

Solutions

- Retail Edge platforms that orchestrate distributed computing in multiple locations with centralized management
- On-premises analytic platforms for real-time insights into operational and customer dynamics
Industry 4.0

- Solutions for device connectivity and intelligence at the Edge, enabling streamlined operation and increased automation
- Supporting AI- and computer vision-based controls to improve quality, worker safety, and increased revenue
- Reliable operation of a wide range of optimized compute architectures such as Edge AI in extreme environments

Highlight Systems

- SYS-E403-12P-FN2T: Configurable wall-mount Edge server with 3rd Gen Intel® Xeon® Scalable processor
- SYS-E302-13AD: Compact fanless server with Intel® Atom™ processor
- SYS-E302-12E: Compact fanless with Intel® Atom™ x642SE
- SYS-E100-9W-IA-H: Ruggedized compact fanless industrial PC with Intel® Core™ processor
- SYS-E100-13AD: Ruggedized ultra-compact fanless server with Intel® Core™ processor
- SYS-111E-FWTR/SYS-111E-FDWTR: Short-depth rackmount Edge server with 3rd Gen Intel® Xeon® Scalable processor
- SYS-221HE-FTNR/SYS-221HE-FTND: High-performance, highly-configurable 2U Edge server with dual 4th Gen Intel® Xeon® Scalable processors
- Embedded MBDs

NEW!

Solutions

- Industry 4.0 Edge AI solutions for robotic controls and logistics
- Industrial systems and applications for production and manufacturing
- Computer vision for quality control including defect detection
Smart Cities and Smart Spaces

- Edge computing distributed across multiple locations supporting transportation, security, venues, cities, and buildings to improve community safety and quality of experience (QoE) with innovative connected applications
- AI inferencing and visual computing in Outdoor Edge locations, enabling intelligent surveillance and accurate incident reporting for faster response times
- Supporting V2X for parking, traffic, and pedestrian safety, autonomous vehicle support, and public transportation improvements

Highlight Systems

<table>
<thead>
<tr>
<th>SYS-E403-9D-16C-IPD2</th>
<th>SYS-221HE-FTNRD</th>
<th>SYS-E403-12P-FN2T</th>
<th>SYS-111E-FWTR</th>
<th>SYS-111E-FDWTR</th>
<th>SYS-E302-12D</th>
<th>SYS-E100-13AD-L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configurable Edge server with Intel® Xeon® D processor in an environmentally-hardened enclosure.</td>
<td>High-performance, highly-configurable 2U Edge server with dual 3rd Gen Intel® Xeon® Scalable processors</td>
<td>Configurable wall-mount Edge server with 3rd Gen Intel® Xeon® Scalable processor</td>
<td>Short-depth rackmount Edge server with 3rd Gen Intel® Xeon® Scalable processor</td>
<td>Ruggedized compact fanless server with Intel® Xeon® D processor</td>
<td>Ruggedized ultra-compact fanless server with Intel® Core™ processor</td>
<td></td>
</tr>
</tbody>
</table>

Solutions

- Distributed AI-powered pole-mount systems for safety and security
- Smart stadium system to provide absolute best fan experience with interactive, responsive services
Remote patient Monitoring and Treatment Management

Clinic Coordination

Operating Room Coordination

Medical Asset Logistics

Smart Healthcare

- Local Edge computing to optimize the use of critical resources in emergency situations
- Distributed Edge computing to implement contact tracing via real-time analytics
- Remote patient monitoring, augmented by Edge AI inferencing, to improve patient quality of life and outcomes
- Fanless, silent server hardware ideal for delicate medical environments

Highlight Systems

SYS-E403-12P-FNZT Configurable wall-mount Edge server with 3rd Gen Intel® Xeon® Scalable processor
SYS-111E-FWTR Short-depth rackmount Edge server with 3rd Gen Intel® Xeon® Scalable processor
SYS-221HE-FTNBD Ultra short-depth rackmount Edge server with 4th Gen Intel® Xeon® Scalable processor
SYS-E300-12D-10CN6P Compact server with Intel® Xeon® D processor
SYS-E302-12D Ruggedized compact fanless server with Intel® Xeon® D processor
SYS-E100-13AD-H Ruggedized ultra-compact fanless server with Intel® Core™ processor

Solutions

- Remote patient monitoring (RPM) for at-home, in-clinic, and remote locations
- ICU bed optimization for real-time ICU shortfalls and availability, and medical asset management
Expanding our Product Portfolio to address 5G, Edge Computing and Emerging IoT Systems

Supermicro provides innovative and first-to-market technologies that are the building blocks for today’s embedded computing platforms. Rapid growth in embedded markets and open standards are driving the need for higher levels of product integration and optimization through virtualization, AI inferencing, network connectivity, remote management, mobile communication, expanded I/O, and device-to-device communications using space and power efficient configurations.

Supermicro’s family of high-performance embedded products are optimized for a wide range of applications and solutions. Supermicro offers many flexible and customized solutions for critical OEM projects, as well as advanced designs for stringent environments, firmware customization, BOM enhancements, and a wide range of legacy IO support.
Supermicro’s SuperEdge is designed to handle increasing compute and I/O density requirements of modern edge applications. With 3 customizable single-processor nodes, SuperEdge delivers high-class performance in a 2U, short-depth form factor. Each node is hot-swappable and offers front access I/O, making the system ideal for remote IoT, Edge, or Telco deployments.

Each node can accommodate three PCIe 5.0 slots, enabling a wide range of add-on cards that allow the SuperEdge to be outfitted for networking, FPGA, DPU, eASIC, and TimeSync Options.

The SuperEdge features an optimized airflow, providing an operating temperate range of -5°C to 55°C. Combined with the ability to withstand a wide range of humidity and other environmental conditions, this allows the server to be deployed in harsh conditions outside of a traditional data center.
X12 3rd Gen Intel® Xeon® Scalable processors

High-efficiency, High-performance Portfolio with Compact Form Factors and Long-life Cycle

The 3rd Gen Intel® Xeon® Scalable processors are the latest CPUs designed for a range of workloads. From the Edge to on-prem and cloud data centers, this new Intel® CPU offers outstanding performance on several benchmarks and includes new features that enable a new level of security and AI acceleration. With more cores at higher frequencies than previous generations of CPUs, the 3rd Gen Intel® Xeon® Scalable processors enable new and innovative applications to be created and deployed from 5G/Telco applications to large-scale analytics. The increase in I/O performance due to PCI-E 4.0 allows faster communication to accelerator options. The amount of directly addressable memory is also increased, allowing more data to be kept in memory.

Data center-class processing at the Edge

Connecting the intelligent world from devices to the cloud

Low-power high-efficiency computing

Long-life cycle

Compact form factors

System Solutions

Expanding our Product Portfolio to address 5G, Edge Computing, and Emerging IoT Systems

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Supermicro’s family of high-performance embedded products are optimized for a wide range of applications and solutions.

The Hyper-E Edge server features NEBS Level 3 certification and is purpose built for far-edge deployments to operate in harsh environments with challenging thermal conditions, and withstand seismic events. Hyper-E is designed to meet the performance demands and energy consumption restrictions required by high-density Tier 1 Telco providers, while providing long-lifecycles and maximum uptime.

Supermicro offers many flexible and customized solutions for critical OEM projects, as well as advanced designs for stringent environments, firmware customization, BOM enhancements, and a wide range of legacy IO support.
X11 Intel® Xeon® Scalable Processors

Single/Dual Processor System Solutions (Cascade Lake/Skylake, LGA 3647)

Supermicro’s X11 DP/UP Embedded Motherboards and Systems offer the highest levels of performance, efficiency, security and scalability in the industry with up to: 3TB DDR4 2666MHz in 24 DIMM slots per node, 7 PCI-E slots, SAS 3.0/SATA 3.0/NVMe hot-swap HDD/SSD support, 10GBase-T/10G SFP+/56Gbps FDR InfiniBand networking options, SATA Disk-on-Module (DOM), and IPMI 2.0 plus KVM with dedicated LAN, and can support new SKU of 2nd Gen Intel® Xeon® Scalable processors. The embedded boards offer 7 year life cycle.

System Solutions

![SYS-1019P-FHN2T](image)

SYS-1019P-FHN2T
Compact • Front Access • 1U WIO System

![SYS-E403-9P-FN2T](image)

SYS-E403-9P-FN2T
3-Slot • Wall-Mount • Edge System

UP Motherboard Solutions

<table>
<thead>
<tr>
<th>Model</th>
<th>Cores</th>
<th>Watts</th>
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<tr>
<td>C621</td>
<td>28</td>
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<tr>
<td>C622</td>
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<td>165W</td>
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![X11SPL-F](image)

X11SPL-F

![X11SPH-nCTF/nCTPF](image)

X11SPH-nCTF/nCTPF

![X11SPW-CTF/CTF](image)

X11SPW-CTF/CTF

![X11SPI-TPF](image)

X11SPI-TPF

![X11SPM-F/TF/TPF](image)

X11SPM-F/TF/TPF

DP Motherboard Solutions

<table>
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<tr>
<th>Model</th>
<th>Cores</th>
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<tr>
<td>-N C621</td>
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![X11DPI-N/NT](image)

X11DPI-N/NT

![X11DPH-T](image)

X11DPH-T

![X11DAi-N](image)

X11DAi-N

![X11DPIX-T](image)

X11DPIX-T
X12 Intel® Xeon® D-1700 and D-2700 Processors

High Core, High Performance

Supermicro X12 systems support Intel® Xeon® D-1700 and Intel® Xeon® D-2700 processors. The E300, 110D and 510D lines of servers are uniquely designed for ruggedized environments where the power and performance of the new generation Intel Xeon D processors are needed to meet demanding SLAs.

The SYS-E300-12D incorporates an Intel® Xeon® D-1700 processor with 4, 8, or 10 cores and up to 256GB of DDR4 memory in a 1U mini-server case. The SYS-510D model offers larger amounts of storage and a total of 4x1G and 2x25G ethernet ports, while the SYS-110D servers contain Intel Xeon D-2700 series CPUs with up to 20 cores and 512GB of memory.

System Solutions

![Image of server models](image1)

Intel® Xeon® D-2700 series
4/8/16/20 cores

SYS-E300-12D-4C-4CN6P
SYS-E300-12D-8CN6P
SYS-E300-12D-10CN6P

Intel® Xeon® D-2700 processor
4/8 cores

Intel® Xeon® D-1700 series
4/8/10 cores

SYS-510D-4C-FN6P
SYS-510D-8C-FN6P
SYS-510D-10C-FN6P

SYS-110D-4C-FRAN8TP
SYS-110D-8C-FRAN8TP
SYS-110D-16C-FRAN8TP

SYS-510D-4C-FRDN8TP
SYS-510D-8C-FRDN8TP
SYS-510D-20C-FRDN8TP

Intel® Xeon® D-1700 series
4/8/16/20 cores

Motherboard Solutions

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<th>Model</th>
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<td>D-2712T</td>
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<td>D-2733NT</td>
<td>8 Core</td>
<td>80W</td>
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<td>D-2775TE</td>
<td>16 Core</td>
<td>100W</td>
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<td>D-2796NT</td>
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<td>D-1732TE</td>
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<td>D-1718T</td>
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<td>D-1736NT</td>
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<td>67W</td>
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<td>D-1749NT</td>
<td>10 Core</td>
<td>90W</td>
</tr>
<tr>
<td>D-1718T</td>
<td>4 Core</td>
<td>46W</td>
</tr>
<tr>
<td>D-1736NT</td>
<td>8 Core</td>
<td>67W</td>
</tr>
<tr>
<td>D-1747NT</td>
<td>10 Core</td>
<td>80W</td>
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</tbody>
</table>
X11 Intel® Xeon® D-2100 Processors

**High Core, High Performance (FCBGA 2518, SoC)**

Supermicro X11 Generation of Motherboards/Servers support Intel® Xeon® D-2100 (Formerly Skylake-D) series system-on-chip (SoC) processors.

Systems include up to four integrated ports of 10 Gigabit Intel® Ethernet, and up to 512GB of addressable memory with Error Correcting Code (ECC), and Intel® QuickAssist Technology (QAT) provides up to 100Gbps of hardware acceleration for compute-intensive, such as cryptography, encryption, and description.

### System Solutions

#### Intel® Xeon® D-2100IT/2100NT series

- SYS-1019D-16C-RAN13TP+
- SYS-1019D-14CN-RAN13TP+
- SYS-1019D-16C-FN13TP+

Intel® Xeon® D-2100IT/2100NT series
4/14/16 cores

- SYS-E403-9D-16C-IPD2
- SYS-E403-9D-14C-IPD2

Intel® Xeon® D-2100IT series
4/14/16 cores

#### Intel® Xeon® D-2100IT/2100NT series

- SYS-1019D-16C-RDN13TP+
- SYS-1019D-14CN-RDN13TP+
- SYS-1019D-16C-FN13TP+

Intel® Xeon® D-2100IT/2100NT series
4/14/16 cores

- SYS-E403-9D-16C-IPN3
- SYS-E403-9D-14C-IPN3

Intel® Xeon® D-2100IT series
4/14/16 cores

### Motherboard Solutions

- **D-2123IT** | 4 Core | 60W
  - X11SDV-4C-TLN2F
  - X11SDV-8C-TLN2F

- **D-2141I** | 8 Core | 65W
  - X11SDV-12C-TLN2F

- **D-2166NT** | 12 Core | 85W
  - X11SDV-16C-TLN2F

- **D-2183IT** | 16 Core | 100W
  - X11SDV-16C-TLN2F

- **D-2146NT** | 8 Core | 80W
  - X11SDV-8C-TP8F

- **D-2166NT** | 12 Core | 85W
  - X11SDV-12C-TP8F

- **D-2183IT** | 16 Core | 100W
  - X11SDV-16C-TP8F
X13/X12 Intel® Core™ i9/i7/i5/i3 Processors

High Core Count, High Performance (Alder Lake)

Intel’s X13th/12th Generation Core processors deliver measurable improvements over previous generations, with both an increased core count and a higher thread count. Featuring performance hybrid architecture with Intel Thread Directors helps to optimize embedded workloads and increase processor efficiency. The 12th Gen Core processor also supports features such as PCIe 5.0 and DDR5, enabling these platforms to fully leverage the latest technological developments.

System Solutions

SYS-111AD-HN2

- Supports X13th/12th Gen Core i9/i7/i5/i3/Pentium/Celeron processors, up to 80W
- Up to 128GB Unbuffered ECC/non-ECC UDIMM in 4 DIMM slots
- 1x PCIe Gen5 x16 HHHL slot
- 2 Hot-swap 2.5” SATA3 drive bays
- 200W Low Noise AC-DC power supply with PFC

SYS-E100-13AD

- Ruggedized ultra-compact fanless server
- Intel® Core™ processor

SYS-E300-13AD

- X13th/12th Generation Intel® Core™ i9/i7/i5/i3/Pentium/Celeron Processor (LGA-1700)
- Up to 64GB DDR4-3200MHz SO-DIMM in 2 DIMM slots
- Support M.2 M/E-Key
- AMT vPro supported
- Quad Independent Display by 2x HDMI and 2x DP

SYS-E302-13AD

- X13th/12th Gen Core Cel/i3/i5/i7 Processor (LGA1700)
- Windows 10 EoT Enterprise 2021 LTSC and long-term Linux kernel
- Up to 64GB DDR5 4800MHz SO-DIMM in 2 DIMM slots
- 1x SATA 2.5” Storage, 1x M.2 M-Key (2280) support NVMe
- Fanless cooling; operating temperate 0°C – 45°C

Motherboard Solutions

X13SAZ-F
- X13th/12th Generation Intel® Core™ i9/i7/i5/i3/Pentium/Celeron Processor (LGA-1700)
- Up to 64GB DDR4-3200MHz SO-DIMM in 2 DIMM slots
- Support M.2 M/E-Key
- AMT vPro supported
- Quad Independent Display by 2x HDMI and 2x DP

X13SAV-LVDS
- X13th/12th Generation Intel® Core™ i9/i7/i5/i3/Pentium/Celeron Processor (LGA-1700)
- Up to 64GB DDR4-3200MHz SO-DIMM in 2 DIMM slots
- Support M.2 M/E-Key
- AMT vPro supported
- Quad Independent Display by 2x HDMI and 2x DP

X13SAV-PS
- X13th/12th Gen Core Cel/i3/i5/i7 Processor (LGA1700)
- Windows 10 EoT Enterprise 2021 LTSC and long-term Linux kernel
- Up to 64GB DDR5 4800MHz SO-DIMM in 2 DIMM slots
- 1x SATA 2.5” Storage, 1x M.2 M-Key (2280) support NVMe
- Fanless cooling; operating temperate 0°C – 45°C
X12 Intel® Xeon® W-1200/10th Gen Core Processors

Up to 10 Cores with W480E or Q470E Chipset (Comet Lake, LGA 1200)

Supermicro’s newest generation X12 UP Embedded Motherboards with Intel’s Xeon® W-1200 series and 10th Generation Core i9/i7/i5/i3/Pentium/Celeron series processor offer the highest levels of performance, efficiency, security and scalability in the industry with up to: 128GB DDR4 2933MHz in four DIMM slots, CPUs up to 10 cores, PCI-E slots with bifurcation support, USB 3.2 Gen 2, M.2 E/M-keys, and SATA 3.0 (6Gbps).

Designed with performance, reliability, manageability, and long-life support in mind, Supermicro’s single processor motherboards are the perfect solution for a variety of multitasking and heavy workload applications.

System Solutions

Motherboard Solutions

Supermicro’s newest generation X12 UP Embedded Motherboards with Intel’s Xeon® W-1200 series and 10th Generation Core i9/i7/i5/i3/Pentium/Celeron series processor offer the highest levels of performance, efficiency, security and scalability in the industry with up to: 128GB DDR4 2933MHz in four DIMM slots, CPUs up to 10 cores, PCI-E slots with bifurcation support, USB 3.2 Gen 2, M.2 E/M-keys, and SATA 3.0 (6Gbps).

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System Solutions

Motherboard Solutions
Supermicro X11 Single Processor servers now support E3-1200 v6/v5 (Kabylake/Skylake) series processors. Server motherboards coupled with the long-life C236 PCH Chipset provide up to 7 years of extended life for embedded applications. These systems deliver breakthrough performance, high performance graphics, stronger security and power efficiency over previous generation products. The systems are ideal for a wide range of IoT applications, including industrial control and automation, retail kiosks and medical devices.

**System Solutions**

**SYS-5019S-M2, 1U • 19.85" depth**
- Up to 4 DIMMs, 64 GB of 2400MHz DDR4 UDIMM ECC/NON-ECC
- Intel® Xeon® E3-1200 v6/v5 & 7th/6th Gen Intel® Core™ i7, i5, i3, Pentium®, Celeron® processor in LGA1151 | C236
- 2 DP, DVI-I, total 3x independent display
- 4x 3.5" SATA3 hot-swap drive bays
- Intel® vPro™ and AMT
- 2 Gigabit LAN with AMT
- 1 PCI-E 3.0 x16 FH, HL slot
- 7 year life cycle

**Motherboard Solutions**

4 cores | 80W
---
X11SSH-F
X11SSH-LN4F
X11SSH-TF
X11SSH-CTF
X11SSM
X11SSM-F
X11SSL

4 cores | 80W
---
X11SSL-F
X11SSL-CF
X11SSL-nF
X11SSW-F
X11SSW-TF
X11SSW-4TF
X11SSi-LN4F

4 cores | 80W
---
X11SSA-F
X11SAE
X11SAE-F
X11SAE-M
X11SSZ-F
X11SSZ-QF
X11SSZ-TLN4F
A3 Intel® Atom®
High Density, Lower Power solutions (Parker Ridge)

Supermicro’s A3 compact edge systems leverage the new Intel Atom C5000 Series, based on the 10 nm processes. This delivers an updated efficient core design, even with the C5000’s lower core count. The platform also features the Intel QAT Gen2 accelerator, an M.2 2280 slot, and rich connectivity options.

System Solutions

SYS-E200-12A-4C
- Intel® Atom® Parker Ridge processor C5315, TDP 38W
- Up to 128GB ECC RDIMM DDR4-2400MHz in 2 DIMM slots
- 1x M.2 B-Key 3052 w/PCIe 3.0 & SATA3 & USB 3.0
- 1x M.2 M-Key 2280 w/PCIe 3.0
- 1x dedicated LAN for IPMI and 4x GbE RJ45 LAN ports

SYS-E200-12A-8C
- Intel® Atom® Parker Ridge processor C5325, TDP 41W
- Up to 128GB ECC RDIMM DDR4-2933MHz in 2 DIMM slots
- 1x M.2 B-Key 3052 w/PCIe 3.0 & SATA3 & USB 3.0
- 1x M.2 M-Key 2280 w/PCIe 3.0
- 1x dedicated LAN for IPMI and 4x GbE RJ45 LAN ports

SYS-E302-12A-4C
- Intel® Atom® Parker Ridge processor C5315, TDP 38W
- Up to 128GB ECC RDIMM DDR4-2400MHz, in 2 DIMM slots
- 1x M.2 B-Key 3052 w/PCIe 3.0 & SATA3 & USB 3.0
- Fanless cooling; operating temperate 0°C – 45°C
- Optional Wall Mount Bracket

SYS-E302-12A-8C
- Intel® Atom® Parker Ridge processor C5325, TDP 41W
- Up to 128GB ECC RDIMM DDR4-2933MHz, in 2 DIMM slots
- 1x M.2 B-Key 3052 w/PCIe 3.0 & SATA3 & USB 3.0
- Fanless cooling; operating temperate 0°C – 45°C
- Optional Wall Mount Bracket

Motherboard Solutions

A3SPI-4C-HLN4F
A3SPI-4C-LN6PF
A3SPI-8C-HLN4F
A3SPI-8C-LN6PF
A2 Intel® Atom® C3000

High Density, Low Power Solutions (Denverton, FCBGA 1310)

Supermicro A2 Generation of Motherboards/Servers support Intel® Atom® Processors C3000 (Formerly Denverton) series system-on-chip (SoC) Processors.

Based on low-power Goldmont microarchitecture and 14-nanometer process technology, this product family extends the scalability of Supermicro Products into industry-leading performance per watt, low thermal design power (TDP), and unprecedented levels of configurable high-speed I/O for accelerated innovation across networking, storage, Internet of Things (IoT), and Scalable solutions. It also offers hardware assist Intel® QuickAssist Technology (Intel® QAT) to accelerate storage compression and cryptographic workloads.

System Solutions

SYS-5019A-FTN4 1U • 9.8" depth
- 1x 3.5" or 4x 2.5" internal drive bays
- 1 PCI-E 3.0 x4, 1 M.2 (M key for SSD, 2242/2280, PCI-E 3.0 x2 or SATA3)
- Up to 256GB ECC RDIMM DDR4 2400MHz or 64GB ECC/non-ECC UDIMM in 4 DIMM slots
- 4 GbE LAN, 1 dedicated IPMI LAN

SYS-5019A-FN5T 1U • 9.8" depth
- 1 PCI-E 3.0 x8, 1 M-Key 2242/80 supports PCI-E 3.0 x2/SATA
1 B-Key 3042/2280 supports PCI-E 3.0 x2/SATA/USB
- 4x 10GbE LAN ports, 1x 1GbE LAN port (IPMI shared LAN), 1x COM, 4x USB 3.0
- SoC controller for 2 SATA3 (6Gbps) ports
- 1x 3.5" or 2x 2.5" HDD

Intel® Atom® C3758
8 cores | 25W

Intel® Atom® C3958
16 cores | 31W

Motherboard Solutions

C333B: 2 cores | 9W
A2SDi-2C-HLN4F
A2SDi-2C-HL6F
A2SDi-4C-HLN4F
A2SDi-4C-HL6F
A2SDi-8C/8C-HLN4F
A2SDi-8C/8C-HL6F
A2SDi-12C-HLN4F
A2SDi-12C-HL6F
A2SDi-16C-HLN4F
A2SDi-16C-HL6F
A2SDi-H-TP4F
A2SDi-16C-TP8F

C355B: 4 cores | 16W
A2SDi-2C-HLN4F
A2SDi-4C-HLN4F
A2SDi-8C/8C-HLN4F
A2SDi-12C-HLN4F
A2SDi-16C-HLN4F
A2SDi-H-TP4F
A2SDi-16C-TP8F

C375B: 8 cores | 25W
C385B: 12 cores | 25W
C395B: 16 cores | 31W
C395B: 16 cores | 31W
C395B: 16 cores | 31W

C375B: 8 cores | 25W
A2SDi-H-TF
A2SDi-TP8F/LN4F
A2SDi-8C-TLNSF
A2SDi-12C-TLNSF
A2SDi-16C-TLNSF
A2SDi-8C-LN8F
A2SDi-4C-LN10F
A2SDi-4C-LN10PF
A2SDi-8C-LN10PF
A1 Intel® Atom® C2000

High Density, Low Power Solutions (Rangley & Avoton, FCBGA 1283)

Supermicro A1 Generation of Motherboards/Servers support Intel® Atom® Processors C2000 (Formerly Avoton, Rangeley) series system-on-chip (SoC) Processors.

Based on low-power Silvermont microarchitecture and 22-nanometer process technology, this product family extends the scalability of Supermicro Products into smaller footprints, low power, and hardware assisted encryption/compression engines for networking communications, storage and intelligent systems applications.

This product family offers multi-core processing capabilities (from two cores to eight cores), a range of thermal design power (TDP) from 7 to 20 watts, supports energy-efficient network designs with dual 1G to Dual 10G LAN Ports, Multiple Display capabilities, including fanless embedded designs.

System Solutions

SYS-5018A-LTN4  1U • 9.8" depth
- Up to 2 DIMMs, 16GB of DDR3 ECC SODIMM 1333MHz
- 2x 3.5" or optional 4x 2.5" internal SATA2 and SATA3 Drive Bays
- 1x PCI-E 2.0 x8 Slot, 2x USB 3.0, 2x USB 2.0, VGA, COM,
- Quad GbE LAN ports, IPMI 2.0 on Dedicated LAN port
- 200W Gold Level Low-Noise Power Supply

SYS-5028A-TN4  Mini Tower
- 4 DIMMs / 64GB of DDR3 ECC SODIMM 1600MHz
- 4x 3.5" hot-swap SATA trays: 2x 2.5" Internal HDD Drive Bays
- 1 PCI-E 2.0x8 Slot, 2 USB 3.0, 2 USB 2.0, VGA, COM,
- Quad GbE LAN ports, IPMI 2.0 on Dedicated LAN port
- 250W Bronze Level Low-Noise Power Supply

Motherboard Solutions

-2550F: C2550 | 4 cores | 14W
-2750F: C2750 | 8 cores | 20W

-2558F: C2558 | 4 cores | 15W
-2758F: C2758 | 8 cores | 20W

-2550F: C2550 | 4 cores | 14W
-2750F: C2750 | 8 cores | 20W

Microsoft Azure Certified. Please see page 44 for complete list.
Supermicro X11 Single Processor servers with E3-1500 v5 (Skylake-H) series processors provide up to 26% higher graphics performance than the previous-generation E3-1200 v4 processors. For dense and high-capacity media processing over the net, these systems can deliver up to 18 AVC streams or 8 HEVC streams at 1080p 30 frames per second (FPS), or 2 HEVC streams at 4K 30 FPS.

SYS-5019S-TN4  1U • 9.8" depth
- Single socket FCBGA 1440 supports Intel® Xeon® processor E3-1585 v5, 8 Threads
- Intel® C236 chipset
- 1x 3.5" or 4x 2.5" HDD
- Up to 32GB Unbuffered ECC SO-DIMM DDR4 2133MHz; 2 DIMM slots
- 1 PCI-E 3.0 x16, 1 Mini-PCI-E with mSATA, 1 M.2 (M Key, 2242/2280)

X11 Intel® Core™ i9, i7, i5, i3, 8th/9th Gen Single Processor
Up to 6 cores with Q370 Chip Set (Coffee-Lake, FCBGA 1151)
Supermicro single processor X11 designs feature the Intel® B360/Q370/H310 chipset which support the Intel® 8th Generation Core™ i7/i5/i3 processor family. With outstanding features that include up to 64GB non-ECC fast DDR4 DRAM in 4 DIMMs, USB 3.0/USB 3.1, PCI-E 3.0 M.2, and SATA 3.0 (6Gbps) HDD. With support for next generation graphics controller, 4K HD graphics resolution and multiple displays. Designed with performance, reliability, manageability and long-life in mind, Supermicro's single processor motherboards are the perfect solution for a variety of multi-tasking, heavy workload applications.

SYS-E300-9C, Mini-1U • 10" width
- 2 Internal 2.5" fixed drive bays with bracket
- 1 PCI-E 3.0 x16 AOC slot (LP) open slot (space share with top 2.5" drive bay)
- Up to 64GB unbuf. non-ECC SO-DIMM, DDR4-2666Hz; in 2 DIMM slots
- M.2 M key: SATA/PCI-E 3.0 x4, support 2242/2280 length
- M.2 E key: PCI-E 3.0 x1, support 2230 length
- 2x GbE LAN ports, 4 USB 3.1 (2 type A and 2 type C)

Intel® Xeon® E3-1500 v5
Pro Graphics P580 GTe4 (FCBGA 1440)
Intel® Core™ i7, i5, i3 Single Processor

Higher Performance with improved graphics and better power efficiency (Skylake-S/Kabylake-S)

The 7th/6th Gen Intel® Core™ processors deliver significant improvements in graphics performance that offers stunning visuals for gaming as well as compelling 4K content creation and media playback via AVX 2.0. Offers enhanced security through AES instructions for faster encryption as well as BIOS/FW protection, new I/O connectivity and multiple independent display capabilities.

System Solutions

SYS-1019S-M2  Compact 1U • 16.9" depth
- Up to 64GB Unbuffered non-ECC, DDR4-2400MHz in 4 DIMM slots
- Intel® 7th/6th Generation Core™ i7/i5/i3 series, Intel® Celeron™, Intel® Pentium™
- Remote management via IPMI or vPro | Q170
- 2 Gigabit LAN ports, 2x DP, DVI-I, 3 independent displays
- Full Height and Full Length add on card support
- Power redundancy or BBP® support

SYS-5019S-M2  1U • 19.85" depth
- Up to 4 DIMMs, 64 GB of 2400MHz DDR4 UDIMM ECC/NON-ECC
- Intel® Xeon® E3-1200 v6/v5 & 7th/6th Gen Intel® Core™ i7, i5, i3, Pentium®, Celeron® processor in LGA1151 | C236
- 2 DP, DVI-I, total 3x independent display
- 4x 3.5" SATA3 hot-swap drive bays
- Intel® vPro™ and AMT
- 2 Gigabit LAN with AMT
- 1 PCI-E 3.0 x16 FH, HL slot
- 7 year life cycle

SYS-5029S-TN2  Mini Tower
- Compact Mini Tower 7th/6th Gen. Intel® i7/i5/i3 Core™ Server
- 32GB Unbuffered non-ECC 2D-DIMM, DDR4-2400MHz, in 2 DIMM slots
- 7th/6th Generation Intel® Core™ i7/i5/i3, Pentium and Celeron Processor in LGA1151 Socket | Q170
- Up to 4 Hot-Swap 3.5" SATA3 HDD, 1 internal 2.5" fixed HDD and 1 M.2 (M key 2242/80 PCI-E 3.0 x4)
- 2 Gigabit LAN ports
- Embedded long-life
- Quiet Operation
- 1 slim DVD-ROM drive bay (shared with 1 internal 2.5" drive bay)

Motherboard Solutions

4 cores | 91W
- X11SSQ/L
- X11SSZ-QF
- X11SSZ-TLN4F/F
- X11SSV-Q
- X11SSV-LVDS

5G/Edge/IoT/Embedded Building Block Solutions - May 2023
Intel® Atom®/Pentium™/Celeron® Processors
(Apollo Lake)

Supermicro X11/A2 Generation of Motherboards/Servers support Intel® Atom® processor x5-E3900, Pentium™ N4200 and Celeron® J3455 (Formerly Apollo Lake) series system-on-chip (SoC) Processors.

Based on Goldmont architecture and utilizing Intel's industry-leading 14 nm process technology, the Supermicro high density, low-power Motherboard/Server solutions provide great options for value-segment buyers who need basic functionality at an affordable price. The solutions are ideal as IoT Gateway/Edge Computing, that focus more strongly on data collection and real-time communication over networks, provide telemetry and usage information helping to drive predictive analytics, even perform inference locally to take actions without latency. Empowers real-time computing in intelligent AIoT applications for retail, industrial and medical, and more.

**System Solutions**

**SYS-E50-9AP-WIFI**
- Built-in WiFi/BT combo module and 2T2R antenna
- IP51 with plastic chassis design for water/dust proof
- Cable-less design for increased reliability and cost efficiency
- Fanless design with palm-size dimension

**Motherboard Solutions**

- **SYS-E302-12A**
- **SYS-E302-12E**
- **SYS-E50-9AP**
- **SYS-E50-9AP-L**
- **SYS-E50-9AP-N5**
- **SYS-E100-9AP**
- **SYS-E100-9AP-L**
- **SYS-E100-9AP-LN4-C**
- **SYS-E100-9AP-LN4-E**

*Microsoft Azure Certified. Please see page 44 for complete list.*
X13 12th Generation Intel® Mobile Core Processor

Intel® Core™ U-Series multi-chip package (MCP FCBGA-1744)

Supermicro X13 Generation of Motherboards/Servers features the Intel® 12th Generation Core™ i7/i5/i3/ Celeron® processor. Ultra-low-power, Alder Lake U-Series 15W, with up to 10 Cores/12 threads for balance of power and performance. Outstanding features include up to 64GB of fast DDR5 DRAM in 2 SODIMM, 4 USB 3.2 Gen2, 4 USB 2.0, 1 USB3.0, 3 M.2 with M/B/E-key, 1 Nano-SIM Slot, 4 COM ports, 1 SlimSAS, 12-24V wide range power input and SATA 3.0 (6Gbps) HDD. Up to 96 EU with Intel® Iris® Xe graphics capable to 4K HD graphics resolution and 4 4K displays with 2 HDMI 2.0b/1.4b and two DP1.4 (by type-C Alt mode). Ideal for small form factor, energy-efficient, reliability, manageability, fanless and long-life applications. Suitable for application such as AI Edge , Video conference, Surveillance , Machine vision , Broadcasting POS/KIOSK, Automation Robotic, and Medical Instrument.

Fanless Compact System Solutions

Supermicro X13 Generation of Motherboards/Servers features the Intel® 12th Generation Core™ i7/i5/i3/ Celeron® processor. Ultra-low-power, Alder Lake U-Series 15W, with up to 10 Cores/12 threads for balance of power and performance. Outstanding features include up to 64GB of fast DDR5 DRAM in 2 SODIMM, 4 USB 3.2 Gen2, 4 USB 2.0, 1 USB3.0, 3 M.2 with M/B/E-key, 1 Nano-SIM Slot, 4 COM ports, 1 SlimSAS, 12-24V wide range power input and SATA 3.0 (6Gbps) HDD. Up to 96 EU with Intel® Iris® Xe graphics capable to 4K HD graphics resolution and 4 4K displays with 2 HDMI 2.0b/1.4b and two DP1.4 (by type-C Alt mode). Ideal for small form factor, energy-efficient, reliability, manageability, fanless and long-life applications. Suitable for application such as AI Edge , Video conference, Surveillance , Machine vision , Broadcasting POS/KIOSK, Automation Robotic, and Medical Instrument.

Motherboard Solutions

Supermicro X13 Generation of Motherboards/Servers features the Intel® 12th Generation Core™ i7/i5/i3/ Celeron® processor. Ultra-low-power, Alder Lake U-Series 15W, with up to 10 Cores/12 threads for balance of power and performance. Outstanding features include up to 64GB of fast DDR5 DRAM in 2 SODIMM, 4 USB 3.2 Gen2, 4 USB 2.0, 1 USB3.0, 3 M.2 with M/B/E-key, 1 Nano-SIM Slot, 4 COM ports, 1 SlimSAS, 12-24V wide range power input and SATA 3.0 (6Gbps) HDD. Up to 96 EU with Intel® Iris® Xe graphics capable to 4K HD graphics resolution and 4 4K displays with 2 HDMI 2.0b/1.4b and two DP1.4 (by type-C Alt mode). Ideal for small form factor, energy-efficient, reliability, manageability, fanless and long-life applications. Suitable for application such as AI Edge , Video conference, Surveillance , Machine vision , Broadcasting POS/KIOSK, Automation Robotic, and Medical Instrument.

SUPER® X13SAN-C-WOHS
SUPER® X13SAN-L-WOHS
SUPER® X13SAN-E-WOHS
SUPER® X13SAN-H-WOHS

SUPER® X13SAN-C-WOHS
SUPER® X13SAN-L-WOHS
SUPER® X13SAN-E-WOHS
SUPER® X13SAN-H-WOHS

SUPER® X13SAN-C-WOHS
SUPER® X13SAN-L-WOHS
SUPER® X13SAN-E-WOHS
SUPER® X13SAN-H-WOHS

SUPER® X13SAN-C-WOHS
SUPER® X13SAN-L-WOHS
SUPER® X13SAN-E-WOHS
SUPER® X13SAN-H-WOHS
11th Generation Intel® Mobile Core Processor

Intel® Core™ U-Series multi-chip package (MCP FCBGA 1449)

Supermicro’s single processor socket FCBGA1449 MCP features the Intel 11th Generation Core i7/i5/i3 Celeron® processor ultra-low-power U-series with 4 cores/8 threads for balance of power and performance. Outstanding features include up to 64GB of fast DDR4 DRAM in 2 DIMMs, 4 USB 3.1 Gen2 slots, 3 M.2 slots with B/M/E-key, 1 Nano-SIM slot, 6 COM ports, 12-24V wide range power input and SATA 3.0 (6Gbps) HDD. The platform also provides support for next generation graphics controller, 4K HD graphics resolution and 3 displays with LVDS, HDMI and DP++ ports. Ideal for small form factor, energy-efficient, reliability, manageability, fanless and long-life applications.

Fanless Compact System Solutions

SYS-E100-12T-L/E/H/C

- Intel® 11th Generation Core™ i7/i5/i3 Processor, Intel Celeron® Processor
- System-on-Chip
- M.2: B-Key, M-Key, E-Key
  M.2 2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCI-E Gen3 x1) with nano SIM holder M.2 2230 E-Key (CNVr/PCI-E 3.0 x1/USB2) M.2 2242/2280 M-Key (PCI-E 4.0 x4), NVMe support
- Up to 64GB unbuffered Non-ECC SO-DIMM DDR4 3200MHz; 2 DIMM slots
- Dual 2.5GbE LAN w/ Intel I225-IT
- 4 COM (RS-232/422/485), 3 USB 3.2, 1 USB-C 3.2, 4 USB 2.0, 1 DIO via DB9
- 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b
- 0°C to 50°C operating temperature
- Lockable 12V DC 84W power adapter
- Hailo-8™ powerful and efficient edge AI solution integration ready

Motherboard Solutions

X12STN-H/-E/-L/-C (with Heatsink)

- Intel® 11th Generation Core™ i7/i5/i3 Processor, Intel Celeron® Processor
- Up to 80 EU with Intel Iris® Xe graphics capable of 4K60 resolution
- High-speed connectivity through dual 2.5GbE, 4 USB3.1 gen2, PCIe 4.0 expansion
- 4 display support (HDMI 2.0b/1.4b, DP1.4 and 48-bit LVDS)
- Rich I/O and expansion: 4 COM, 8 USB, audio with AMP, triple M.2
- Accelerated AI inferencing and computer vision in parallel without extra hardware
- 100% wide temp grade design and components applied
- Hailo-8™ powerful and efficient Edge AI solution integration ready

X12STN-H/-E/-L/-C (without Heatsink)

- Intel® 11th Generation Core™ i7/i5/i3 Processor, Intel Celeron® Processor
- Up to 96 EU with Intel Iris® Xe graphics capable of 4K60 resolution
- High-speed connectivity through dual 2.5GbE, 4 USB3.1 gen2, PCIe 4.0 expansion
- 4 display support (HDMI 2.0b/1.4b, DP1.4 and 48-bit LVDS)
- Rich I/O and expansion: 4 COM, 8 USB, audio with AMP, triple M.2
- Accelerated AI inferencing and computer vision in parallel without extra hardware
- 100% wide temp grade design and components applied
- 12-24V (10% tolerance) wide range power input support
- Without heatsink for customers flexible thermal design
- Hailo-8™ powerful and efficient Edge AI solution integration ready
X10 Intel® Xeon® E5-2600 v4/v3 Processors

Dual Processor System Solutions (Broadwell)

Broadwell Support
All X10 Dual Processor motherboards now support Intel's latest E5-2600 v4 series (Broadwell) processor for even faster performance. Coupled with the long-life C612 PCH that provides up to 7 years of extended availability, the E5-2600 v4 processor brings unparalleled performance, efficiency, scalability, and flexibility to handle the most demanding embedded and embedded cloud workloads for years to come.

NVMe Capability
Many X10 models now support U.2 (NVMe) storage capabilities for unmatched performance (throughput and latency), true hot-swap capability, and cost-effectiveness that is better than using traditional add-on card based flash storage solutions.

System Solutions

SYS-6018R-MD Compact • 16.9"
- Short-Depth Chassis for X11/X10 DP Solutions
- 500W Platinum Level High-efficiency Power Supply
- 1x 3.5" or 4x 2.5" HDD
- 4x 40x56mm PWM fans
- 2 Full-Height I/O Expansion slot

Motherboard Solutions

X10DRD-i(N)T 22 cores | 145W
- Dual E5-2600 v4/v3 CPUs up to 145W
- 8 DIMM DDR4 2133MHz (Up to 1TB)
- 10 SATA 3.0 HDD/SSD ports
- 4 PCI-E 3.0 x16 + 3 PCI-E 3.0 x8 + 1 PCI-E 3.0 x4 in x8 + 1 PCI-E 2.0 x4 in x8
- 7 USB 3.0, 2 SuperDOM, TPM support
- 13.05" x 10.5" ATX Form Factor
- 10 SATA3 HDD/SSD ports, Optional dual NVMe Ports (-N Option)
## X13 SuperEdge

(For Complete System Only)

### Redundant AC power

**Serverboard**

- **Super® X13SEED-F**
- **Super® X13SEED-SF**

### Processor Support

- **4th Gen Intel® Xeon® Scalable processors**
- Single Socket LGA-4677 (Socket E) supported
- TDP up to 300W

### Key Applications

- **Enterprise Edge Computing**
- **Telecom DRAN, CRAN, and Edge Core Application**
- **Flex-RAN, Open-RAN vBBU**
- **Multi-Access Edge Computing**

### Outstanding Features

- Three front hot-swappable nodes with single CPU socket and 8 DIMM design
- Front access I/O design, and tool less serviceability
- 16.9”(430mm) chassis depth

### Chipset

- Intel® C741

### System Memory (Max.)

- 8 DIMM slots
- UP to 2TB: DDR5 ECC RDIMM/RDIMM

### Expansion Slots

- 2 PCIe 5.0 x16 FHHL, PCIe 5.0 x16 LP

### Onboard Storage Controller

- Intel® SATA

### Connectivity

- 1x 1GbE RJ45 port(s)
- 1x 1GbE SFP port(s)

### VGA/Audio

- 1 VGA port

### Management

- IPMI 2.0; SuperDoctor® 5

### Power Supply

- 2000W AC Redundant PSU

### Cooling System

- 4 heavy duty fan(s)

### Form Factor

- 2U Rackmount
- Enclosure: 449 x 88 x 430mm (17.7” x 3.5” x 16.9”)
- Package: 750 x 240 x 590mm (29.5” x 9.5” x 23.2”)

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**Model** | **SYS-211SE-31A** | **SYS-211SE-31AS**
---|---|---
Processor Support | 4th Gen Intel® Xeon® Scalable processors supported | 4th Gen Intel® Xeon® Scalable processors supported
Key Applications | • Enterprise Edge Computing  
• Telecom DRAN, CRAN, and Edge Core Application  
• Flex-RAN, Open-RAN vBBU  
• Multi-Access Edge Computing | • Enterprise Edge Computing  
• Telecom DRAN, CRAN, and Edge Core Application  
• Flex-RAN, Open-RAN vBBU  
• Multi-Access Edge Computing
Outstanding Features | • Three front hot-swappable nodes with single CPU socket and 8 DIMM design  
• Front access I/O design, and tool less serviceability  
• 16.9”(430mm) chassis depth | • Three front hot-swappable nodes with single CPU socket and 8 DIMM design  
• Front access I/O design, and tool less serviceability  
• 16.9”(430mm) chassis depth
Serverboard | Super® X13SEED-F | Super® X13SEED-SF
Chipset | Intel® C741 | Intel® C741
System Memory (Max.) | 8 DIMM slots UP to 2TB: DDR5 ECC RDIMM/RDIMM | 8 DIMM slots UP to 2TB: DDR5 ECC RDIMM/RDIMM
Expansion Slots | 2 PCIe 5.0 x16 FHHL, PCIe 5.0 x16 LP | 2 PCIe 5.0 x16 FHHL, PCIe 5.0 x16 LP
Onboard Storage Controller | Intel® SATA | Intel® SATA
Connectivity | 1x 1GbE RJ45 port(s) | 1x 1GbE SFP port(s)
VGA/Audio | 1 VGA port | 1 VGA port
Management | IPMI 2.0; SuperDoctor® 5 | IPMI 2.0; SuperDoctor® 5
Drive Bays | N/A | N/A
Peripheral Bays | None | None
Power Supply | 2000W AC Redundant PSU | 2000W AC Redundant PSU
Cooling System | 4 heavy duty fan(s) | 4 heavy duty fan(s)
Form Factor | 2U Rackmount  
Enclosure: 449 x 88 x 430mm (17.7” x 3.5” x 16.9”)  
Package: 750 x 240 x 590mm (29.5” x 9.5” x 23.2”) | 2U Rackmount  
Enclosure: 449 x 88 x 430mm (17.7” x 3.5” x 16.9”)  
Package: 750 x 240 x 590mm (29.5” x 9.5” x 23.2”)
## X13 SuperEdge

(For Complete System Only)

### Processor Support
- **SYS-211SE-31D**: 4th Gen Intel® Xeon® Scalable processors
  - Single Socket LGA-4677 (Socket E) supported
- **SYS-211SE-31DS**: 4th Gen Intel® Xeon® Scalable processors
  - Single Socket LGA-4677 (Socket E) supported
  - TDP up to 300W

### Key Applications
- **SYS-211SE-31D**: 
  - Enterprise Edge Computing
  - Telecom DRAN, CRAN, and Edge Core Application
  - Flex-RAN, Open-RAN vBBU
  - Multi-Access Edge Computing
- **SYS-211SE-31DS**: 
  - Enterprise Edge Computing
  - Telecom DRAN, CRAN, and Edge Core Application
  - Flex-RAN, Open-RAN vBBU
  - Multi-Access Edge Computing

### Outstanding Features
- **SYS-211SE-31D**: Three front hot-swappable nodes with single CPU socket and 8 DIMM design
  - Front access I/O design, and tool less serviceability
  - 16.9” (430mm) chassis depth
- **SYS-211SE-31DS**: Three front hot-swappable nodes with single CPU socket and 8 DIMM design
  - Front access I/O design, and tool less serviceability
  - 16.9” (430mm) chassis depth

### Serverboard
- **SYS-211SE-31D**: SUPER® X13SEED-F
- **SYS-211SE-31DS**: SUPER® X13SEED-SF

### Chipset
- **SYS-211SE-31D**: Intel® C741
- **SYS-211SE-31DS**: Intel® C741

### System Memory (Max.)
- **SYS-211SE-31D**: 8 DIMM slots
  - Up to 2TB: DDR5 ECC RDIMM/RDIMM
- **SYS-211SE-31DS**: 8 DIMM slots
  - Up to 2TB: DDR5 ECC RDIMM/RDIMM

### Expansion Slots
- **SYS-211SE-31D**: 2 PCIe 5.0 x16 FHHL, PCIe 5.0 x16 LP
- **SYS-211SE-31DS**: 2 PCIe 5.0 x16 FHHL, PCIe 5.0 x16 LP

### Onboard Storage Controller
- **SYS-211SE-31D**: Intel® SATA
- **SYS-211SE-31DS**: Intel® SATA

### Connectivity
- **SYS-211SE-31D**: 1x 1GbE RJ45 port(s)
- **SYS-211SE-31DS**: 1x 1GbE SFP port(s)

### VGA/Audio
- **SYS-211SE-31D**: 1 VGA port
- **SYS-211SE-31DS**: 1 VGA port

### Management
- **SYS-211SE-31D**: IPMI 2.0; SuperDoctor® 5
- **SYS-211SE-31DS**: IPMI 2.0; SuperDoctor® 5

### Drive Bays
- **SYS-211SE-31D**: N/A
- **SYS-211SE-31DS**: N/A

### Peripheral Bays
- **SYS-211SE-31D**: None
- **SYS-211SE-31DS**: None

### Power Supply
- **SYS-211SE-31D**: 2000W DC Redundant PSU
- **SYS-211SE-31DS**: 2000W DC Redundant PSU

### Cooling System
- **SYS-211SE-31D**: 4 heavy duty fan(s)
- **SYS-211SE-31DS**: 4 heavy duty fan(s)

### Form Factor
- **SYS-211SE-31D**: 2U Rackmount
  - Enclosure: 449 x 88 x 430mm (17.7” x 3.5” x 16.9”)
  - Package: 750 x 240 x 590mm (29.5” x 9.5” x 23.2”)
- **SYS-211SE-31DS**: 2U Rackmount
  - Enclosure: 449 x 88 x 430mm (17.7” x 3.5” x 16.9”)
  - Package: 750 x 240 x 590mm (29.5” x 9.5” x 23.2”)

---

5G/Edge/IoT/Embedded Building Block Solutions - May 2023
### X12 SuperEdge

(For Complete System Only)

4 hot-pluggable systems (nodes) in 2U

<table>
<thead>
<tr>
<th>MODELS</th>
<th>SYS-210TP-HPTR</th>
<th>SYS-210TP-HPTRD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported TDP up to 270W;</td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported TDP up to 270W;</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• Enterprise Edge Computing • Telecom DRAN, CRAN, and Edge Core Application • Flex-RAN, Open-RAN vBBU • Multi-Access Edge Computing</td>
<td>• Enterprise Edge Computing • Telecom DRAN, CRAN, and Edge Core Application • Flex-RAN, Open-RAN vBBU • Multi-Access Edge Computing</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>• Four rear hot-swappable nodes with single CPU socket and 8 DIMM design</td>
<td>• Four rear hot-swappable nodes with single CPU socket and 8 DIMM design</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X12SPT-PT</td>
<td>SUPER® X12SPT-PT</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>8 DIMM slots Up to 2TB ECC RDIMM/LRDIMM, DDR4-3200MHz</td>
<td>8 DIMM slots Up to 2TB ECC RDIMM/LRDIMM, DDR4-3200MHz</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>2 PCIe 4.0 x16 FHHL, PCIe 4.0 x16 LP</td>
<td>2 PCIe 4.0 x16 FHHL, PCIe 4.0 x16 LP</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>2x 10GbE SFP+ with Intel® X710-BM</td>
<td>2x 10GbE SFP+ with Intel® X710-BM</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 onboard VGA port</td>
<td>1 onboard VGA port</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Intel® Node Manager; iPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SUM; SuperDoctor® 5; Watch Dog</td>
<td>Intel® Node Manager; iPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SUM; SuperDoctor® 5; Watch Dog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>6x 2.5” hot-swap SATA drive bays;</td>
<td>6x 2.5” hot-swap SATA drive bays;</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>2000W 100-240VAC/50-60Hz power supply</td>
<td>2000W -48Vdc single output power supply</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>4 heavy duty fan(s)</td>
<td>4 heavy duty fan(s)</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>2U Rackmount Enclosure: 438 x 88 x 730mm (17.25” x 3.5” x 28.75”) Package: 526 x 250 x 965mm (20.7” x 9.8” x 38”)</td>
<td>2U Rackmount Enclosure: 438 x 88 x 730mm (17.25” x 3.5” x 28.75”) Package: 526 x 250 x 965mm (20.7” x 9.8” x 38”)</td>
</tr>
</tbody>
</table>
# X12 SuperEdge

**(For Complete System Only)**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-210SE-31A</th>
<th>SYS-210SE-31D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported TDP up to 205W;</td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported TDP up to 205W;</td>
</tr>
</tbody>
</table>
| Key Applications  | • Enterprise Edge Computing  
• Telecom DRAN, CRAN, and Edge Core Application  
• Flex-RAN, Open-RAN vBBU  
• Multi-Access Edge Computing | • Enterprise Edge Computing  
• Telecom DRAN, CRAN, and Edge Core Application  
• Flex-RAN, Open-RAN vBBU  
• Multi-Access Edge Computing |
| Outstanding Features | • Three front hot-swappable nodes with single CPU socket and 8 DIMM design  
• Front access IO design, and tool less serviceability  
• 16.9” (430mm) chassis depth | • Three front hot-swappable nodes with single CPU socket and 8 DIMM design  
• Front access IO design, and tool less serviceability  
• 16.9” (430mm) chassis depth |
| Serverboard       | SUPER® X12SPED-F                                                               | SUPER® X12SPED-F                                                               |
| Chipset           | Intel® C621A                                                                   | Intel® C621A                                                                   |
| System Memory (Max.) | 8 DIMM slots  
Up to 2TB ECC RDIMM/LRDIMM, DDR4-3200MHz | 8 DIMM slots  
Up to 2TB ECC RDIMM/LRDIMM, DDR4-3200MHz |
| Expansion Slots   | 2 PCIe 4.0 x16 FHHL, PCIe 4.0 x16 LP                                           | 2 PCIe 4.0 x16 FHHL, PCIe 4.0 x16 LP                                           |
| Onboard Storage Controller | Intel® SATA                                                                   | Intel® SATA                                                                   |
| Connectivity      | 1x 1GbE RJ45 port(s)                                                           | 1x 1GbE RJ45 port(s)                                                           |
| VGA/Audio         | 1 VGA port                                                                     | 1 VGA port                                                                     |
| Management        | IPMI 2.0; SuperDoctor® 5                                                       | IPMI 2.0; SuperDoctor® 5                                                       |
| Drive Bays        | 0x NVMe drive bays;                                                            | 0x NVMe drive bays;                                                            |
| Peripheral Bays   | None                                                                           | None                                                                           |
| Power Supply      | 2000W AC Redundant PSU                                                         | 2000W DC Redundant PSU                                                         |
| Cooling System    | 4 heavy duty fan(s)                                                            | 4 heavy duty fan(s)                                                            |
| Form Factor       | 2U Rackmount  
Enclosure: 449 x 88 x 450mm (17.7” x 3.5” x 16.9”)  
Package: 750 x 240 x 590mm (29.5” x 9.5” x 23.2”) | 2U Rackmount  
Enclosure: 449 x 88 x 450mm (17.7” x 3.5” x 16.9”)  
Package: 750 x 240 x 590mm (29.5” x 9.5” x 23.2”) |
## X13 Hyper-E

**(For Complete System Only)**

### 2U Hyper-E Optimized for 5G and Telco

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-221HE-FTNR</th>
<th>SYS-221HE-FTN RD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>4th Gen Intel® Xeon® Scalable processors</td>
<td>4th Gen Intel® Xeon® Scalable processors</td>
</tr>
<tr>
<td></td>
<td>Dual Socket LGA-4677 (Socket E) supported TDP up to 350W; 4 UPI</td>
<td>Dual Socket LGA-4677 (Socket E) supported TDP up to 350W; 4 UPI</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• Cloud Computing</td>
<td>• Cloud Computing</td>
</tr>
<tr>
<td></td>
<td>• Network Function Virtualization</td>
<td>• Network Function Virtualization</td>
</tr>
<tr>
<td></td>
<td>• AI Inference and Machine Learning</td>
<td>• AI Inference and Machine Learning</td>
</tr>
<tr>
<td></td>
<td>• Telecom Micro Data Center</td>
<td>• Telecom Micro Data Center</td>
</tr>
<tr>
<td></td>
<td>• 5G Core and Edge</td>
<td>• 5G Core and Edge</td>
</tr>
<tr>
<td></td>
<td>Tool-less system design for east maintenance</td>
<td>Tool-less system design for east maintenance</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>Storage configurations up to 6x 2.5” hot-swap NVMe/SATA drive bays</td>
<td>Storage configurations up to 6x 2.5” hot-swap NVMe/SATA drive bays</td>
</tr>
<tr>
<td></td>
<td>Flexible networking options with 2 AOM networking slots (OCP NIC 3.0 compatible)</td>
<td>Flexible networking options with 2 AOM networking slots (OCP NIC 3.0 compatible)</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER®* X13DEM</td>
<td>SUPER®* X13DEM</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>32 DIMM slots up to 8TB: 32x 256GB DRAM</td>
<td>32 DIMM slots UP to 8TB: 32x 256GB DRAM</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>Configurable PCIe slot options up to 8 SW PCIe 5.0 x8 (6 FHFL+ 2 FHHL) or 4</td>
<td>Configurable PCIe slot options up to 8 SW PCIe 5.0 x8 (6 FHFL+ 2 FHHL) or 4</td>
</tr>
<tr>
<td></td>
<td>DW PCIe 5.0 x16 (3 FHFL + FHHL)</td>
<td>DW PCIe 5.0 x16 (3 FHFL + FHHL)</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>2x 100GbE QSFP28 with Broadcom® BCM57508 (optional)</td>
<td>2x 100GbE QSFP28 with Broadcom® BCM57508 (optional)</td>
</tr>
<tr>
<td></td>
<td>2x 100GbE QSFP28 with Intel® E810-CAM2 (optional)</td>
<td>2x 100GbE QSFP28 with Intel® E810-CAM2 (optional)</td>
</tr>
<tr>
<td></td>
<td>2x 100GbE QSFP28 with Mellanox® CX-6 DX (optional)</td>
<td>2x 100GbE QSFP28 with Mellanox® CX-6 DX (optional)</td>
</tr>
<tr>
<td></td>
<td>2x 25GbE SFP28 with Broadcom® BCM57414 (optional)</td>
<td>2x 25GbE SFP28 with Broadcom® BCM57414 (optional)</td>
</tr>
<tr>
<td></td>
<td>4x 10GbE RJ45 with Intel® X550 (optional)</td>
<td>4x 10GbE RJ45 with Intel® X550 (optional)</td>
</tr>
<tr>
<td></td>
<td>4x 10GbE SFP+ with Intel® X710-BM2 (optional) via AOM</td>
<td>4x 10GbE SFP+ with Intel® X710-BM2 (optional) via AOM</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 VGA port</td>
<td>1 VGA port</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM;</td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM;</td>
</tr>
<tr>
<td></td>
<td>SSM; SUM; SuperDoctor® S; Watch Dog</td>
<td>SSM; SUM; SuperDoctor® S; Watch Dog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>6x 2.5” hot-swap NVMe/SATA drive bays; 6x 2.5” NVMe hybrid; Optional RAID support via RAID Controller AOC</td>
<td>6x 2.5” hot-swap NVMe/SATA drive bays; 6x 2.5” NVMe hybrid; Optional RAID support via RAID Controller AOC</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>Redundant 2000W Titanium level (96%)</td>
<td>2x 1300W -48Vdc single output</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>6 heavy duty fan(s)</td>
<td>6 heavy duty fan(s)</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>2U Rackmount Enclosure: 436.88 x 88.9 x 574mm (17.2” x 3.5” x 22.6”) Package: 598 x 247 x 938mm (23.5” x 9.7” x 36.9”)</td>
<td>2U Rackmount Enclosure: 436.88 x 88.9 x 574mm (17.2” x 3.5” x 22.6”) Package: 598 x 247 x 938mm (23.5” x 9.7” x 36.9”)</td>
</tr>
</tbody>
</table>
### Processor Support
- Dual Socket LGA-4189 (Socket P+) supported
- TDP up to 270W; 3 UPI up to 11.2GT/s

### Key Applications
- Cloud Computing
- Network Function Virtualization
- AI Inference and Machine Learning
- Telecom Micro Data Center
- 5G Core and Edge

### Outstanding Features
- NEBS level 3 certified for telecommunication
- Front I/O, tool-less design

### Serverboard
- SUPER® X12DHM-6

### Chipset
- Intel® C621A

### System Memory (Max.)
- 32 DIMM slots
- Up to 8TB ECC RDIMM, DDR4-3200MHz
- Up to 8TB ECC RDIMM, DDR4-3200MHz

### Expansion Slots
- 3 PCI-E 4.0 x16 DW FHFL or 6 x8 SW FHFL slot(s)
- 1 PCI-E 4.0 x16 SW FHHL or 2 x8 SW FHHL slot(s)

### Onboard Storage Controller
- Intel® SATA

### Connectivity
- 1x 1Gb port(s) with Aspeed 2600
- 2x 25GbE SFP28 with BCM57414 (optional)
- 2x 100GbE QSFP28 with BCM57508 (optional)
- 2x 1GbE RJ45 with Intel® X550-AT2 (optional)
- 4x 1GbE C or 4x 1GbE SFP with Intel® X550-AM4 (optional)
- 2x 1GbE RJ45 with Intel® X710-TM4 (optional)
- 4x 1GbE SFP+ with Intel® X710-BM1 (optional)
- 4x 25GbE RJ45/SFP28 with CX-4 Lx EN Intel® X550-AT2 (optional) via AIOM

### VGA/Audio
- 1 VGA port

### Management
- SuperDoctor® 5; Watch Dog; NMI; SUM; KVM with dedicated LAN; SPM; Intel® Node Manager; SSM; IPMI 2.0; Redfish API

### Drive Bays
- 6x 2.5" hot-swap NVMe/SATA/SAS drive bays; 6x 2.5" NVMe hybrid; Optional RAID support via RAID Controller AOC
- 2x M.2 slots M key for SSD via PCI-E & SATA interface, 2280/22110

### Peripheral Bays
- None

### Power Supply
- 1300W Redundant - 48v DC Power Supplies
- 2000W or 1200W AC redundant Titanium Level (typical 96%)

### Cooling System
- 6x 6cm heavy duty fan(s)

### Form Factor
- 2U Rackmount
- Enclosure: 436.88 x 88.9 x 574mm (17.2" x 3.5" x 22.6")
- Package: 598 x 247 x 938mm (23.5" x 9.7" x 36.9")
### X13 5G/Edge

(For Complete System Only)

#### 2U UP compact OpenRAN server

![X13 5G/Edge](image)

### Model Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-211E-FRN2T</th>
<th>SYS-211E-FRDN2T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>4th Gen Intel® Xeon® Scalable processors, Single Socket LGA-4677 (Socket E) supported, TDP up to 270W</td>
<td>4th Gen Intel® Xeon® Scalable processors, Single Socket LGA-4677 (Socket E) supported, TDP up to 270W</td>
</tr>
</tbody>
</table>
| Key Applications | • Cloud Computing  
• Network Function Virtualization  
• AI Inference and Machine Learning  
• 5G Core and Edge | • Cloud Computing  
• Network Function Virtualization  
• AI Inference and Machine Learning  
• 5G Core and Edge |
| Outstanding Features | • Design with compliance to NEBS-Level 3 | • Design with compliance to NEBS-Level 3 |
| Serverboard | SUPER® X13SEM-TF | SUPER® X13SEM-TF |
| Chipset | Intel® C741 | Intel® C741 |
| System Memory (Max.) | 8 DIMM slots  
UP to 2TB: 8x 256GB DRAM | 8 DIMM slots  
UP to 2TB: 8x 256GB DRAM |
| Expansion Slots | 2x PCIe 5.0 x16 FHHL, 1x PCIe 5.0 x16 HHHL, 1x PCIe 5.0 x8 HHHL | 2x PCIe 5.0 x16 FHHL, 1x PCIe 5.0 x16 HHHL, 1x PCIe 5.0 x8 HHHL |
| Onboard Storage Controller | Intel® SATA | Intel® SATA |
| Connectivity | 2x 10GbE QSFP28 with Intel® E810-CAM2 (optional)  
2x 10GbE SFP+ with Intel® X710-BM2 (optional)  
2x 200GbE QSFP56 with Mellanox® MT28908A0-XCCF-HVM (optional)  
2x 25GbE QSFP28 with Intel® E810-CAM1 (optional)  
2x 25GbE QSFP28 with Intel® XXV710 (optional)  
2x 40GbE QSFP+ with Intel® XL710-BM2 (optional)  
4x 1GBe RJ45 with Intel® I350 (optional) | 2x 10GbE QSFP28 with Intel® E810-CAM2 (optional)  
2x 10GbE SFP+ with Intel® X710-BM2 (optional)  
2x 200GbE QSFP56 with Mellanox® MT28908A0-XCCF-HVM (optional)  
2x 25GbE QSFP28 with Intel® E810-CAM1 (optional)  
2x 25GbE QSFP28 with Intel® XXV710 (optional)  
2x 40GbE QSFP+ with Intel® XL710-BM2 (optional)  
4x 1GBe RJ45 with Intel® I350 (optional) |
| VGA/Audio | 1 VGA port | 1 VGA port |
| Management | Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog | Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog |
| Drive Bays | 2x 2.5" hot-swap NVMe drive bays; | 2x 2.5" hot-swap NVMe drive bays; |
| Peripheral Bays | None | None |
| Power Supply | Redundant 800W AC 100-240Vac input, Platinum level | 2x 600W -48Vdc single output |
| Cooling System | 4 heavy duty fan(s) | 4 heavy duty fan(s) |
| Form Factor | 2U Rackmount  
Enclosure: 436.88 x 88.9 x 298.8mm (17.2" x 3.5" x 11.8")  
Package: 490 x 188 x 590mm (19.3" x 7.4" x 23.3") | 2U Rackmount  
Enclosure: 436.88 x 88.9 x 298.8mm (17.2" x 3.5" x 11.8")  
Package: 490 x 188 x 590mm (19.3" x 7.4" x 23.3") |

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**NEW!** 4th Gen Intel® Xeon® Scalable processors Supported

**NEW!** 2U UP compact OpenRAN server
## MODEL  |  SYS-111E-FWTR  |  SYS-111E-FDWTR  
---|---|---
**Processor Support**  |  4th Gen Intel® Xeon® Scalable processors Single Socket LGA-4677 (Socket E) supported  |  4th Gen Intel® Xeon® Scalable processors Single Socket LGA-4677 (Socket E) supported  
**Key Applications**  |  - Machine Learning (ML)  
- Artificial Intelligence (AI) on Edge  
- Flex-RAN, Open-RAN vBBU  
- Outdoor DU of 5G Application  
- Multi-Access Edge Computing  |  - Machine Learning (ML)  
- Artificial Intelligence (AI) on Edge  
- Flex-RAN, Open-RAN vBBU  
- Outdoor DU of 5G Application  
- Multi-Access Edge Computing  
**Outstanding Features**  |  - Redundant Power Supplies Design  
- Front access IO design, 16.9” (430mm) chassis depth  
- 5G Telecom, Flex-RAN, Open-RAN Optimized  |  - Redundant Power Supplies Design  
- Front access IO design, 16.9” (430mm) chassis depth  
- 5G Telecom, Flex-RAN, Open-RAN Optimized  
**Serverboard**  |  SUPER® X13SEW-TF  |  SUPER® X13SEW-TF  
**Chipset**  |  Intel® C741  |  Intel® C741  
**System Memory (Max.)**  |  8 DIMM slots  
UP to 2TB: DDR5 ECC RDIMM/RDIMM  |  8 DIMM slots  
UP to 2TB: DDR5 ECC RDIMM/RDIMM  
**Expansion Slots**  |  2 PCIe 5.0 x16 FHFL, PCIe 5.0 x16 LP  |  2 PCIe 5.0 x16 FHFL, PCIe 5.0 x16 LP  
**Onboard Storage Controller**  |  Intel® SATA  |  Intel® SATA  
**Connectivity**  |  2x 10GbE port(s)  |  2x 10GbE port(s)  
**VGA/Audio**  |  1 VGA port  |  1 VGA port  
**Management**  |  IPMI 2.0  |  IPMI 2.0  
**Drive Bays**  |  2x 2.5" SATA drive bays;  |  2x 2.5" SATA drive bays;  
**Peripheral Bays**  |  None  |  None  
**Power Supply**  |  800W AC Redundant PSU  |  600W DC Redundant PSU  
**Cooling System**  |  4 heavy duty fan(s)  |  4 heavy duty fan(s)  
**Form Factor**  |  1U Rackmount  
Enclosure: 436.88 x 44.5 x 429.3mm (17.2” x 1.7” x 16.9”)  
Package: 685 x 203 x 609mm (27” x 8” x 24”)  |  1U Rackmount  
Enclosure: 437 x 43 x 429mm (17.2” x 1.7” x 16.9”)  
Package: 686 x 203 x 610mm (27” x 8” x 24”)
### X12 5G/Edge

**Front I/O, Front DC PSU**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-110P-FDWTR</th>
<th>SYS-110P-FRDN2T</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket P+) supported, CPU up to 205W TDP</td>
<td>3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket P+) supported, CPU up to 205W TDP</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>8-DIMM, DDR4 -3200MHz, Up to 2TB ECC, RDIMM(3DS), LRDIMM(3DS)</td>
<td>8-DIMM, DDR4 -3200MHz, ECC up to 2TB, RDIMM(3DS), LRDIMM(3DS)</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>2x PCI-E 4.0 x16 FHFL slots, 1x PCI-E 4.0 x16 low profile slot</td>
<td>2x PCI-E 4.0 x16 FHFL slots</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>2x 10G Based-T LAN Ports</td>
<td>2x 10G Based-T LAN Ports</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1x onboard VGA port</td>
<td>1x onboard VGA port</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>KVM with dedicated LAN, Super Doctor, Watch Dog, Redfish API</td>
<td>KVM with dedicated LAN, Super Doctor, Watch Dog, Redfish API</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>2x Internal 2.5” SATA drive bays</td>
<td>2x Internal 2.5” SATA drive bays</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>600W DC Redundant power supplies</td>
<td>600W DC Redundant power supplies</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>6x (40x40x56 mm) cooling fans</td>
<td>5x (40x40x56 mm) cooling fans</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>1U rackmount (Front I/O) Enclosure: 437 x 429 x 43mm (17.2” x 16.9” x1.7”)</td>
<td>1U rackmount (Front I/O) Enclosure: 437 x 399 x 43mm (17.2” x 15.7” x1.7”)</td>
</tr>
</tbody>
</table>

**Front I/O, Rear DC PSU**

3rd Gen Intel® Xeon® Scalable processors Supported

- Front I/O, Front DC PSU
- Front I/O, Rear DC PSU
### X12 5G/Edge

**3rd Gen Intel® Xeon® Scalable processors Supported**

- Front I/O, Rear AC Power
- 2U Compact Rackmount
- Wall-mount, 3 PCI-E Slots

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<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-210P-FRDN6T</th>
<th>SYS-110P-FRN2T</th>
<th>SYS-E403-12P-FN2T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
<td>3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports up to 250W;</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Cloud Computing&lt;br&gt;• Network Function Virtualization&lt;br&gt;• AI Inference and Machine Learning&lt;br&gt;• 5G Core and Edge</td>
<td>• Multi-Access Edge Computing (MEC)&lt;br&gt;• Network Function Virtualization (NFV)&lt;br&gt;• Artificial Intelligence (AI) on Edge, Machine Learning (ML)&lt;br&gt;• Industrial Automation, Retail, Smart Medical Expert Systems</td>
<td>• Multi-Access Edge Computing (MEC)&lt;br&gt;• Universal Customer Premise Equipment (uCPE)&lt;br&gt;• Network Function Virtualization (NFV)&lt;br&gt;• Artificial Intelligence (AI) on Edge, Machine Learning (ML)&lt;br&gt;• Industrial Automation, Retail, Smart Medical Expert Systems</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• Front I/O&lt;br&gt;• Ultra-Short Depth Chassis (300mm)&lt;br&gt;• Redundant 600W -48V DC Power&lt;br&gt;• Up to 4 PCI-E 4.0 I/O Slots (CPU Dependent)</td>
<td>• 8-DIMM, DDR4 -3200MHz, ECC, up to 2TB RDIMM(3DS), LRDIMM(3DS)&lt;br&gt;• 2x PCI-E 4.0 x16 FHFL slots&lt;br&gt;• 800W AC Redundant power supplies&lt;br&gt;• 2x 10G Based-T LAN Ports</td>
<td>Single Socket Intel® Xeon-SP (Ice Lake) up to 32 Cores&lt;br&gt;3x PCIe 4.0 x16 slot (FHFL)&lt;br&gt;2x 10 Gigabit Ethernet Ports&lt;br&gt;4x USB 3.0, 2x USB 2.0&lt;br&gt;4x 2.5” Internal Drive Bays</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X12SPM-LN6TF</td>
<td>SUPER® X12SPM-TF</td>
<td>SUPER® X12SPM-TF</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>8-DIMM slots&lt;br&gt;Up to 2TB ECC RDIMM, DDR4-3200MHz&lt;br&gt;Up to 2TB ECC RDIMM, DDR4-3200MHz</td>
<td>8-DIMM, DDR4 -3200MHz, Up to 2TB ECC, RDIMM(3DS), LRDIMM(3DS)</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz, up to 2TB Intel® Optane™ Persistent Memory 200 Series, in 8 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2 PCI-E 4.0 x16 FHHL slot(s)&lt;br&gt;PCE-E 4.0 x16 FHHL in certain configurations slot(s)&lt;br&gt;PCE-E 4.0 x8 Low Profile or 2 x8 Low Profile slot(s)&lt;br&gt;PCE-E 4.0 x8 FHHL in certain configurations slot(s)</td>
<td>2x PCI-E 4.0 x16 FHHL slots</td>
<td>3 PCI-E4.0 x16 (FHFL)</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
<td>Intel® C621A</td>
</tr>
<tr>
<td>Connectivity</td>
<td>2x 1/10GbE and 4x 1GbE port(s)</td>
<td>2x 10G Based-T LAN Ports</td>
<td>2x 10GbE, 1x Dedicated IPMI LAN, 4 USB 3.0, 2 USB 2.0, 1x COM, 1x VGA</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>1 VGA port</td>
<td>1x onboard VGA port</td>
<td>One VGA port from ASPEED AST2600 BMC</td>
</tr>
<tr>
<td>Management</td>
<td>SuperDoctor® 5; Watch Dog; NMI; KVM with dedicated LAN; SPM; Intel® Node Manager; IPMI 2.0; Redfish API; SSM; SUM</td>
<td>KVM with dedicated LAN, Super Doctor, Watch Dog, Redfish API</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>2x 2.5” hot-swap SATA drive bays;</td>
<td>2x Internal 2.5” SATA drive bays</td>
<td>4x 2.5” SATA 3.0 Internal Drive Bays</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>600W -48V DC Redundant Power Supplies</td>
<td>800W AC Redundant power supplies</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
</tr>
<tr>
<td>Cooling System</td>
<td>4 heavy duty fan(s)</td>
<td>5x (40x40x56 mm) cooling hot swap fans</td>
<td>3x 80x38mm PWM hot swap fans</td>
</tr>
<tr>
<td>Form Factor</td>
<td>2U Rackmount&lt;br&gt;Enclosure: 436.88 x 88.9 x 298.8mm (17.2” x 3.5” x 11.8”)&lt;br&gt;Package: 490 x 188 x 590mm (19.3” x 7.4” x 23.3”)&lt;br&gt;1U rackmount (Front I/O)&lt;br&gt;Enclosure: 437 x 399 x 43mm (17.2” x 15.7” x1.7”)&lt;br&gt;267 x 109 x 406mm (10.5” x 4.3” x 16”)</td>
<td>2U Rackmount&lt;br&gt;Enclosure: 436.88 x 88.9 x 298.8mm (17.2” x 3.5” x 11.8”)&lt;br&gt;Package: 490 x 188 x 590mm (19.3” x 7.4” x 23.3”)</td>
<td>2U Rackmount&lt;br&gt;Enclosure: 436.88 x 88.9 x 298.8mm (17.2” x 3.5” x 11.8”)&lt;br&gt;Package: 490 x 188 x 590mm (19.3” x 7.4” x 23.3”)</td>
</tr>
</tbody>
</table>
## Intel® Xeon® D-2700 Processors Supported

**SYS-110D-4C-FRAN8TP**
**SYS-110D-8C-FRAN8TP**
**SYS-110D-16C-FRAN8TP**
**SYS-110D-20C-FRAN8TP**

### Processor Support
- Intel® Xeon® Processor D-2700 Series; Single Socket FCBGA-2579 supported;
  - 4C: TDP up to 65W;
  - 8C: TDP up to 80W;
  - 16C: TDP up to 100W;
  - 20C: TDP up to 120W

### Key Applications
- Intel® QuickAssist Technology

### Outstanding Features
- Intel® Xeon® Processor D-2712T
- Up to 256GB Registered ECC RDIMM, DDR4-3200MHz; Up to 512GB LRDIMM, DDR4-3200MHz, in 4 DIMM slots
- 2x Internal 2.5'' drive bays (2x PCI-E 4.0 NVMe x8 SlimSAS and 1x OCuLink options)
- 4x GbE, 2x 25G SFP28 and 2x 10G Base-T
- 1x M.2 M-Key 2242/2280 (SATA/PCI-E 3.0 x4)
- 5x 40x56mm Hot-swap Counter-rotation PWM Fans
- Redundant 800 W, 100-240 Vac

### Serverboard
- **4C:** SUPER® X12SDV-4C-SPT8F
- **8C:** SUPER® X12SDV-8C-SPT8F
- **16C:** SUPER® X12SDV-16C-SPT8F
- **20C:** SUPER® X12SDV-20C-SPT8F

### Chipset
- Intel® SoC

### System Memory (Max.)
- Up to 256GB Registered ECC RDIMM, DDR4-3200MHz; Up to 512GB LRDIMM, DDR4-3200MHz, in 4 DIMM slots

### Expansion Slots
- x PCIe 4.0 x 16 FHFL

### Onboard Storage Controller
- Intel® SATA

### Connectivity
- 4x GbE, 2x 25G SFP28 and 2x 10G Base-T

### VGA/Audio
- 1 VGA port

### Management
- IPMI 2.0; SuperDoctor® 5

### Drive Bays
- 2x 2.5'' SATA/PCIe drive bays;

### Peripheral Bays
- None

### Power Supply
- Redundant 800W Platinum level (94%)

### Cooling System
- 5 heavy duty fan(s)

### Form Factor
- 1U Rackmount
  - Enclosure: 437 x 43 x 399mm (17.2" x 1.7" x 15.7")
  - Package: 680 x 200 x 605mm (26.7" x 7.9" x 23.8")

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**SYS-110D-4C-FRDN8TP**
**SYS-110D-8C-FRDN8TP**
**SYS-110D-16C-FRDN8TP**
**SYS-110D-20C-FRDN8TP**

### Processor Support
- Intel® Xeon® Processor D-2700 Series; Single Socket FCBGA-2579 supported;
  - 4C: TDP up to 65W;
  - 8C: TDP up to 80W;
  - 16C: TDP up to 100W;
  - 20C: TDP up to 120W

### Key Applications
- Intel® QuickAssist Technology

### Outstanding Features
- Intel® Xeon® Processor D-2712T
- Up to 256GB Registered ECC RDIMM, DDR4-3200MHz; Up to 512GB LRDIMM, DDR4-3200MHz, in 4 DIMM slots
- 2x Internal 2.5'' drive bays (2x PCI-E 4.0 NVMe x8 SlimSAS and 1x OCuLink options)
- 4x GbE, 2x 25G SFP28 and 2x 10G Base-T
- 1x M.2 M-Key 2242/2280 (SATA/PCI-E 3.0 x4)
- 5x 40x56mm Hot-swap Counter-rotation PWM Fans
- Redundant 600 W, -48 Vdc

### Serverboard
- **4C:** SUPER® X12SDV-4C-SPT8F
- **8C:** SUPER® X12SDV-8C-SPT8F
- **16C:** SUPER® X12SDV-16C-SPT8F
- **20C:** SUPER® X12SDV-20C-SPT8F

### Chipset
- Intel® SoC

### System Memory (Max.)
- Up to 256GB Registered ECC RDIMM, DDR4-3200MHz; Up to 512GB LRDIMM, DDR4-3200MHz, in 4 DIMM slots

### Expansion Slots
- x PCIe 4.0 x 16 FHFL

### Onboard Storage Controller
- Intel® SATA

### Connectivity
- 4x GbE, 2x 25G SFP28 and 2x 10G Base-T

### VGA/Audio
- 1 VGA port

### Management
- IPMI 2.0; SuperDoctor® 5

### Drive Bays
- 2x 2.5'' SATA/PCIe drive bays;

### Peripheral Bays
- None

### Power Supply
- Redundant 800W Platinum level (94%)

### Cooling System
- 5 heavy duty fan(s)

### Form Factor
- 1U Rackmount
  - Enclosure: 437 x 43 x 399mm (17.2" x 1.7" x 15.7")
  - Package: 680 x 200 x 605mm (26.7" x 7.9" x 23.8")
## Intel® Xeon® D-2700 Processors Supported

### Processor Support
- **MODEL**
  - **SYS-510D-4C-FN6P**
  - **SYS-510D-8C-FN6P**
  - **SYS-510D-10C-FN6P**
  - **SYS-E300-12D-4CN6P**
  - **SYS-E300-12D-8CN6P**
  - **SYS-E300-12D-10CN6P**

### Key Applications
- Intel® QuickAssist Technology

### Outstanding Features
- **SYS-510D-4C-FN6P**
  - Intel® Xeon® Processor D-1718T, 4 Cores/8 Threads. Single Socket SoC supported, TDP up to 46W
  - High Density ICX-D SoC processor for edge network computing
  - 1x2.5" SATA drives and 1x2280 M.2

- **SYS-510D-8C-FN6P**
  - Intel® Xeon® Processor D-1736NT, 8 Cores/16 Threads. Single Socket SoC supported, TDP up to 67W

- **SYS-510D-10C-FN6P**
  - Intel® Xeon® Processor D-1747NTE, 10 Cores/20 Threads. Single Socket SoC supported, TDP up to 80W

### Serverboard
- **SYS-510D-4C-FN6P**
  - Supermicro® X12SDV-4C-SP6F
- **SYS-510D-8C-FN6P**
  - Supermicro® X12SDV-8C-SP6F
- **SYS-510D-10C-FN6P**
  - Supermicro® X12SDV-10C-SP6F

### Chipset
- **SYS-510D-4C-FN6P**
  - Intel® SoC
- **SYS-510D-8C-FN6P**
  - Intel® SoC
- **SYS-510D-10C-FN6P**
  - Intel® SoC

### System Memory (Max.)
- Up to 256GB Registered ECC RDIMM, DDR4-2933MHz, in 4 DIMM slots

### Expansion Slots
- x PCIe 4.0 x 16 FHHL

### Onboard Storage Controller
- **SYS-510D-4C-FN6P**
  - Intel® SATA
- **SYS-510D-8C-FN6P**
  - Intel® SATA
- **SYS-510D-10C-FN6P**
  - Intel® SATA

### Connectivity
- 4x GbE and 2x 25G SFP28
- 2x 25Gbe SFP28 port(s)
- 4x 1GbE RJ45 port(s) with Intel® Ethernet Controller i210-AT and Intel® Ethernet Controller I350-AM2

### VGA/Audio
- 1 VGA port

### Management
- IPMI 2.0; SuperDoctor® 5
- IPMI 2.0; SSM Agent; SuperDoctor® 5; Watch Dog

### Drive Bays
- 4x 2.5” SATA/PCIe drive bays

### Peripheral Bays
- None

### Power Supply
- 1U 200W Multi-output 80Plus Gold Power Supply

### Cooling System
- 3 heavy duty fan(s)

### Form Factor
- **SYS-510D-4C-FN6P**
  - Enclosure: 437 x 43 x 249mm (17.2" x 1.7" x 9.8")
  - Package: 655 x 155 x 465mm (25.8" x 6.1" x 18.3")
- **SYS-510D-8C-FN6P**
  - Enclosure: 254 x 43 x 226mm (10" x 1.7" x 8.9")
  - Package: 381 x 276 x 142mm (15" x 10.8" x 5.59")
# X12 IoT/Embedded

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-110C-FHN4T</th>
<th>SYS-E300-12C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>10th Gen Intel® Core™ i9/17/15/i3, Intel® Xeon® W-1200 Processors Single Socket LGA-1200 (Socket H5) supported TDP up to 80W</td>
<td>10th Gen Intel® Core™ i9/17/15/i3, Intel® Xeon® W-1200 Processors Single Socket LGA-1200 (Socket H5) supported TDP up to 65W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• Digital Signage, POS • Office Server, DVR/NVR • Video Surveillance • Compact 1U Network Security</td>
<td>• Surveillance Security Server • AI Inference and Machine Learning • Digital Signage • Medical Applications</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>• Intel® Comet Lake, Xeon® W-1200, 10th Gen. Core™ i9 – i3, Pentium®, Celeron® Processor • IPMI (Intelligent Platform Management Interface) • 4 USB 3.2 • 2 DP, DVI-I, VGA, Audio • PCIe 3.0 x16,</td>
<td>• Intel® 11th/10th Gen Comet Lake • Embedded long-life • 1U Box Edge Devices • TPM onboard</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X12SCZ-TLN4F</td>
<td>SUPER® X12SCV-LVDS</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® W480E chipset</td>
<td>Intel® W480E chipset</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 64GB DDR4 ECC/non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI-E 3.0 x16</td>
<td>1 PCI-E 3.0 x16</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>Intel® W480E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® W480E controller for 2 SATA3 (6 Gbps) ports; RAID 0,1</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>1 RJ45 dedicated IPMI, 2x RJ45 10GBase-T, 2x RJ45 GbE</td>
<td>2x RJ45 GbE LAN</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>ASPEED AST2500 BMC, Intel® HD Graphics, ALC 8885 HD Audio</td>
<td>Intel® HD Graphics, ALC 8885 HD Audio</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog</td>
<td>AMT, NMI, SuperDoctor® 5, vPro, Watchdog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>2x 2.5” hot swap HDD (SATA3)</td>
<td>2x 2.5” fixed drive bay with bracket (when AOC area is not occupied) Or 1x 2.5” fixed drive bay with AOC support</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>200W Low Noise AC-DC power supply with PFC, Gold Certified</td>
<td>180W DC Power Adapter</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>4x 40x28mm châssis fan 4-PIN PWM FAN</td>
<td>2 x 4028 mm 4 PIN PWM FAN</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>437 x 43 x 287mm (17.2” x 1.7” x 11.3”)</td>
<td>254 x 43 x 226mm (10” x 1.7” x 8.9”)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-1019P-FHN2T</th>
<th>SYS-E403-9P-FN2T</th>
<th>SYS-1019P-FRDN2T</th>
<th>SYS-1019P-FRDN2T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported, CPU TDP support up to 205W TDP. Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake Refresh).</td>
<td>2nd Generation Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported, CPU TDP support up to 205W TDP. Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake Refresh).</td>
<td>2nd Generation Intel® Xeon® Scalable Processors (Cascade Lake-SP), Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported, CPU TDP support up to 205W TDP. Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake Refresh).</td>
<td>2nd Generation Intel® Xeon® Scalable Processors (Cascade Lake-SP), Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported, CPU TDP support up to 205W TDP. Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake Refresh).</td>
</tr>
<tr>
<td>Key Applications</td>
<td>Intel® Cascade Lake-SP Scalable Processors, 1x PCI-E 3.0 x16 FHFL, 2x 10 Gigabit Ethernet Ports, 2x USB 3.0, 2x USB 2.0, 2x 2.5” Internal SATA3 Drive Bays (optional)</td>
<td>Intel® Cascade Lake-SP Scalable Processors, 1x PCI-E 3.0 x16 FHFL, 2x 10 Gigabit Ethernet Ports, 2x USB 3.0, 2x USB 2.0, 2x 2.5&quot; Internal SATA3 Drive Bays (optional)</td>
<td>Intel® Cascade Lake-SP Scalable Processors, 1x PCI-E 3.0 x16 FHFL, 2x 10 Gigabit Ethernet Ports, 2x USB 3.0, 2x USB 2.0, 2x 2.5” Internal SATA3 Drive Bays (optional)</td>
<td>Intel® Cascade Lake-SP Scalable Processors, 1x PCI-E 3.0 x16 FHFL, 2x 10 Gigabit Ethernet Ports, 2x USB 3.0, 2x USB 2.0, 2x 2.5” Internal SATA3 Drive Bays (optional)</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>Intel® C622 controller, RAID 0,1,5,10</td>
<td>Intel® C622 controller, RAID 0,1,5,10</td>
<td>Intel® C622 controller, RAID 0,1,5,10</td>
<td>Intel® C622 controller, RAID 0,1,5,10</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X11SPW-TF</td>
<td>SUPER® X11SPW-TF</td>
<td>SUPER® X11SPW-TF</td>
<td>SUPER® X11SPW-TF</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C622 chipset</td>
<td>Intel® C622 chipset</td>
<td>Intel® C622 chipset</td>
<td>Intel® C622 chipset</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz, up to 1.5TB 3DS ECC, LRDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
<td>Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz, up to 1.5TB 3DS ECC, LRDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
<td>Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz, up to 1.5TB 3DS ECC, LRDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
<td>Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz, up to 1.5TB 3DS ECC, LRDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2x PCI-E 3.0 x16 FHFL</td>
<td>1x PCI-E 3.0 x16 + 2x PCI-E 3.0 x8, or 2x PCI-E 3.0 x16 (FHFL, 300mm)</td>
<td>2x PCI-E 3.0 x16 (FHFL, 300mm)</td>
<td>2x PCI-E 3.0 x16 (FHFL, 300mm)</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td>Connectivity</td>
<td>2x 10GbE, 1x Dedicated IPMI LAN, 2x USB 3.0, 2x USB 2.0, 1x COM, 1x VGA</td>
<td>2x 10GbE, 1x Dedicated IPMI LAN, 4 USB 3.0, 2 USB 2.0, 1x COM, 1x VGA</td>
<td>2x 10GbE, 1x Dedicated IPMI LAN, 4 USB 3.0, 2 USB 2.0, 1x COM, 1x VGA</td>
<td>2x 10GbE, 1x Dedicated IPMI LAN, 4 USB 3.0, 2 USB 2.0, 1x COM, 1x VGA</td>
</tr>
<tr>
<td>VDMA/Video</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>4x 2.5” Internal SATA3 Drive Bays (optional)</td>
<td>4x 2.5” Internal SATA3 Drive Bays (optional)</td>
<td>4x 2.5” SATA3 Internal Drive Bays</td>
<td>4x 2.5” SATA3 Internal Drive Bays</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>1U 500W multi-output Platinum Level power supply w/ PMbus</td>
<td>600W multi-output Gold Level power supply</td>
<td>600W DC Redundant Power Supplies</td>
<td>800W AC Redundant Power Supplies</td>
</tr>
<tr>
<td>Cooling System</td>
<td>6x 40x28mm PWM fans</td>
<td>3x 80x38mm PWM hot swap fans</td>
<td>5x 40x56 Hot-Swappable Fan Tray</td>
<td>5x 40x56 Hot-Swappable Fan Tray</td>
</tr>
<tr>
<td>Form Factor</td>
<td>437 x 43 x 381mm (17.2” x 1.7” x 15”)</td>
<td>267 x 109 x 406mm (10.5” x 4.3” x 16”)</td>
<td>437 x 43 x 399mm (17.2” x 1.7” x 15.7”)</td>
<td>437 x 43 x 399mm (17.2” x 1.7” x 15.7”)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## MODEL | SYS-5019D-RN8TP | SYS-110A-24C-RN10SP | SYS-110A-16C-RN10SP
---|---|---|---
**Processor Support**<br>Intel® Skylake Xeon® D-2146NT SoC, 2.3GHz, 8 Core, 80W<br>† BIOS version 2.0 or above is required | Intel® Atom® Processor, Socket FCBGA-2106 supported, CPU TDP support 83W TDP | Intel® Atom® Snow Ridge PS342 Single Socket FCBGA-2106 supported TDP up to 71W<br>• Network Appliance<br>• Embedded IoT Computing<br>• Software Defined WAN (SD-WAN), Network Function Virtualization (NFV)<br>• Hyper Converged Infrastructure<br>• Network Security Appliance |<br>**Key Applications**<br>• Network Security Appliance<br>• SDN-WAN, vCPE controller box<br>• NFV Edge Computing Server<br>• Virtualization Server<br>• IoT Edge Computing |<br>**Outstanding Features**<br>• Built in Intel® QAT up to 40Gbps Crypto/Cipher<br>• Supports up to 8C high Density SKL-D SoC for Retail MEC<br>• 4 DDR4 DIMMs (4 ECC LRDIMM or ECC RDIMM) with up to 512GB on LRDIMM<br>• 8 LAN ports support(2x 10G SFP+, 2x 10G Base-T, 4x 1GbE) |<br>**System Memory (Max.)**<br>4x DDR4 DIMM 512 GB up to 2667MHz LRDIMM or 256GB RDIMM, ECC | DDR4 up to 2933MT/s up to 256GB RDIMM, up to 64GB for ECC/Non-ECC UDIMM | DDR4 up to 2666MT/s up to 256GB RDIMM, up to 64GB for ECC/Non-ECC UDIMM<br>**Expansion Slots**<br>1 M.2 slot M key for SSD, 2242/80, 1 M.2 B Key for SSD/ WAN card, 1 Mini-PCI-E with mSATA Support, 1 PCI-E 3.0x8 slots | 1 PCI-E 3.0 x8, M-Key M.2: 2280/42, B-Key M.2 2280/3042, E-Key M.2 2230 | 1 PCI-E 3.0 x8, M-Key M.2: 2280/42, B-Key M.2 2280/3042, E-Key M.2 2230<br>**Onboard Storage Controller**<br>SoC controller for 4 SATA3 (6 Gbps) ports | SoC controller for 6 ports | SoC controller for 6 ports<br>**Connectivity**<br>2x 10G SFP+, 2x 10G Base-T, 4x 1GbE, 1x dedicated IPMI LAN, 2 USB 3.0 | 8x1GbE and 2x 25GbE SFP28 LANs, 1x dedicated IPMI LAN, 2x USB 3.0 | 8x1GbE and 2x 25GbE SFP28 LANs, 1x dedicated IPMI LAN, 2x USB 3.0<br>**VGA/Audio**<br>VGA via BMC | Aspeed AST2500 BMC | Aspeed AST2500 BMC<br>**Management**<br>IPMI 2.0 | Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor®, Watchdog | Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor®, Watchdog<br>**Drive Bays**<br>2x hot-swap 2.5" drive trays | 2x hot-swap 2.5" drive trays | 2x hot-swap 2.5" drive trays<br>**Peripheral Bays**<br>N/A | N/A | N/A<br>**Power Supply**<br>300W AC Redundant power supplies | 300W AC Redundant power supplies | 300W AC Redundant power supplies<br>**Cooling System**<br>2x 40x28mm 4-PIN PWM Fan[FAN-0065L4, 13K RPM] | 3x 40x28mm 4-PIN PWM Fan[FAN-0065L4, 13K RPM] | 3x 40x28mm 4-PIN PWM Fan[FAN-0065L4, 13K RPM]<br>**Form Factor**<br>437 x 43 x 249mm (17.2” x 1.7” x 9.8") | 437 x 43 x 249mm (17.2” x 1.7” x 9.8") | 437 x 43 x 249mm (17.2” x 1.7” x 9.8")

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
### New! X13 Intel® Core® i9/i7/i5/i3 (Alder Lake) Compact 1U Embedded System

**Model**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-111AD-HN2</th>
<th>SYS-E300-13AD</th>
<th>SYS-E302-13AD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>13th/12th Gen Core i9/i7/i5/i3 Processor Single Socket LGA-1700 supported TDP up to 80W</td>
<td>13th/12th Gen Intel Core i9/Core i7/Core i5/Core i3/ Pentium/Celeron Processor Single Socket Socket FCLGA1700 supported TDP up to 65W</td>
<td>Single Socket supported TDP up to 45W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Compact 1U Embedded System • Digital Signage, POS • Office Server, DVR/NVR</td>
<td>• Digital Signage • Medical Applications • Surveillance Security Server • AI Inference and Machine Learning</td>
<td>• IoT Application • Enhanced Graphics&amp;AI • Artificial Intelligence • Retail • Healthcare</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• 13th/12th Generation Intel® Core™ i9/i7/i5/i3/ Pentium/Celeron Processor (LGA-1700), up to 80W • 4x DIMMs; Up to 128GB Unbuffered ECC/non-ECC UDIMM • 1x PCIe Gen5 x16 HHHL slot • 2 Hot-swap 2.5” SATA3 drive bays • 4x 40x28mm 4-pin PWM fans • 200W Low Noise AC-DC power supply with PFC • Rear-access I/O: 2x 2.5GBased-T, 1x Dedicated IPMI, 4x USB3.2, 1x VGA, 1x DVI-D, 2x DP, 1x HDMI 2.0b</td>
<td>• 13th/12th Generation Intel® Core™ i9/i7/i5/i3/ Pentium/Celeron Processor (LGA-1700) • Intel® Q670E • 2x DDR4-3200MHz SO-DIMM max 64GB • Support 1x PCIe 5.0 x16 Slot (Optional) • Support M.2 M/E-Key • AMT vPro Supported • Support up to 2x 2.5” drive bays (Optional) • Quad Independent Display by 2x HDMI and 2x DP</td>
<td>• 13th/12th Gen Core Cel/i3/i5/i7 Processor LGA1700 • Intel® Alder Lake-P, 13th/12th Gen Core Cel/i3/i5/i7 Processor LGA1700 • Windows 10 EoT Enterprise 2021 LTSC and long-term Linux kernel • Up to DDR5 4800MHz 64GB SO-DIMM • 1x SATA 2.5” Storage, 1x M.2 M-Key (2280) support NVMe • Fanless Cooling • Operating Temperature: -0°C-45°C • 150W 12V Lockable DC Power Adapter</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X13SAZ-F</td>
<td>SUPER® X13SAV-LVDS</td>
<td>SUPER® X13SAV-PS</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® R680E</td>
<td>Intel® Q670E</td>
<td>Intel® SoC</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>4 DIMM slots up to 128GB: UDIMM</td>
<td>2 DIMM slots up to 64GB: DDR4 SO-DIMM</td>
<td></td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>x PCIe 5.0 x 16 HHHL</td>
<td>x PCIe 5.0 x 16 LP</td>
<td>M.2 M-Key 2280/ B-Key 3052/ E-Key 2230</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td>Connectivity</td>
<td>2x 2.5GbE RJ45 port(s) with Intel® Ethernet Controller I225-LM</td>
<td>1x 1GbE RJ45 port(s) with Intel® Ethernet Controller I210-AT 1x 2.5GbE RJ45 port(s) with Intel® Ethernet Controller I225-LM</td>
<td>2x 2.5GbE RJ45 port(s) with Intel® Ethernet Controller I225-LM</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>1 onboard VGA port</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Management</td>
<td>IPMI 2.0</td>
<td>SuperDoctor® 5; Watch Dog</td>
<td>SUM; SuperDoctor® 5; Watch Dog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>2x 2.5” hot-swap SATA/PCIe drive bays;</td>
<td>1x 2.5” SATA drive bays;</td>
<td>1x 2.5” SATA/PCIe drive bays;</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Power Supply</td>
<td>1U 200W Multi-output 80Plus Gold Power Supply</td>
<td>Lockable 12V DC 150W power adapter</td>
<td></td>
</tr>
<tr>
<td>Cooling System</td>
<td>4 heavy duty fan(s)</td>
<td>2 heavy duty fan(s)</td>
<td>heavy duty fan(s)</td>
</tr>
<tr>
<td>Form Factor</td>
<td>1U Rackmount Enclosure: 437 x 43 x 287mm (17.2” x 1.7” x 11.3”) Package: 645.16 x 154.94 x 502.92mm (25.4” x 6.1” x 19.8”)</td>
<td>Mini-1U Rackmount Enclosure: 254 x 43 x 226mm (10” x 1.7” x 8.9”) Package: 381 x 276 x 142mm (15” x 10.87” x 5.59”)</td>
<td>Compact Rackmount Enclosure: 295 x 76 x 206mm (11.6” x 3” x 8.1”) Package: 418 x 305 x 194mm (16.45” x 12” x 7.6”)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
### Outstanding Features

- **Processor Support**
  - Intel® 8th/9th Generation Core™ i9-Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® series Processor, Intel® Xeon® E-2100 series and E-2200 series Processor. Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP. A graphic integrated CPU is required to have onboard video from the DVI and DP ports.

- **System Memory**
  - Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots.

- **Connectivity**
  - Dual 10GBase-T, 4 x GB (10Gbps) ports; RAID 0,1,5,10; IPMI 2.0 support.

- **Management**
  - IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog.

- **Drive Bays**
  - 2x 2.5" hot swap HDD (SATA3) (limited to two drives populated).

- **Power Supply**
  - 350W AC-DC multiple output Platinum Level power supply.

### Key Applications

- **Digital Signage**
- **VNA**
- **Office Server**
- **Network Security**
- **Application and data serving**
- **Archiving, Mail/Finance, Security**
- **Network Security Appliance**
- **NFV Edge Computing**

### Serverboard

- **Intel® C246 chipset**
- **Intel® C246 chipset**
- **Intel® C246 chipset**
- **Supermicro® X11SCM-LN8F**

### System Memory (Max.)

- Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots.

### Expansion Slots

- PCI-E 3.0 x 16 full height full length expansion slot; M.2 (M Key, 22110/80).

### Onboard Storage Controller

- Intel® C246 controller for 2 SATA3 (6 Gbps) ports; RAID 0,1,5,10.

### Connectivity

- Dual 10GBase-T, 4 x GbE (10Gbps) ports; RAID 0,1,5,10.

### Management

- IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog.

### Drive Bays

- 2x 2.5” hot swap HDD (SATA3) (limited to two drives populated).

### Peripheral Bays

- N/A

### Power Supply

- 350W AC-DC multiple output Platinum Level power supply.

### Cooling System

- 4x 40x28mm châssis fan 4-PIN PWM FAN 4x 40x28mm PWM FAN.
## Outdoor Edge

### Embedded Weatherproof Intel® Xeon® D Server

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E403-9D-16C-IPD2</th>
<th>SYS-E403-9D-14CN-IPD2</th>
<th>SYS-E403-9D-16C-IP</th>
<th>SYS-E403-9P-16C-IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Xeon® D-2183IT Processor, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
<td>Intel® Xeon® D-2177NT Processor, 14 Cores, 28 Threads, 1.9 GHz, 105W</td>
<td>Intel® Xeon® D-2183IT Processor, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
<td>Intel® Xeon® D-2183IT Processor, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>- 5G Radio Access Network (RAN)</td>
<td>- Multi-Access Edge Computing (MEC)</td>
<td>- Multi-Access Edge Computing (MEC)</td>
<td>- Multi-Access Edge Computing (MEC)</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>- IP65 enclosure for harsh outdoor environments</td>
<td>- Operating Temperature -40°C – 50°C</td>
<td>- Operating Temperature -40°C – 46°C (-40°F – 114.8°F)</td>
<td>- Operating Temperature -40°C – 46°C (-40°F – 114.8°F)</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X11SDW-16C-TP13F+</td>
<td>SUPER® X11SDW-14CN-TP13F+</td>
<td>X11SDW-16C-TP13F</td>
<td>SUPER® X11SDW-16C-TP13F</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Dual x16 or Dual x8, One x16 PCIe-E3.0 full height 3/4 length expansion slot</td>
<td>Dual x16 or Dual x8, One x16 PCIe-E3.0 full height 3/4 length expansion slot</td>
<td>Dual x16 or Dual x8, One x16 PCIe-E3.0 full height 3/4 length expansion slot</td>
<td>Dual x16 or Dual x8, One x16 PCIe-E3.0 full height 3/4 length expansion slot</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>Onboard Storage Controller</td>
<td>2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2 USB 2.0</td>
<td>2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2 USB 2.0</td>
<td>2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2 USB 2.0</td>
</tr>
<tr>
<td>Connectivity</td>
<td>4x SFP+, 9x Gbe (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0</td>
<td>4x SFP+, 9x Gbe (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0</td>
<td>4x SFP+, 9x Gbe (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0</td>
<td>4x SFP+, 9x Gbe (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>VIA 4ISA</td>
<td>VIA 4ISA</td>
<td>VIA 4ISA</td>
<td>VIA 4ISA</td>
</tr>
<tr>
<td>Management</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® S, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® S, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® S, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® S, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Design Capacity: -40Vdc to -59Vdc, 900W</td>
<td>Design Capacity: -44Vdc to -59Vdc, 900W</td>
<td>600W 100-240 VAC, Multi-output power supply w/ PMBus, 80Plus Gold</td>
<td>1200W 100-240 VAC, Multi-output power supply w/ PMBus, 80Plus Gold</td>
</tr>
<tr>
<td>Cooling System</td>
<td>3x 80x80mm PWM redundant fans (Server, 3x 80x80mm IP68 Fans (Cabinet))</td>
<td>3x 80x80mm PWM redundant fans (Server, 6x 80x38mm IP68 Fans (Cabinet))</td>
<td>3x 80x80mm PWM redundant fans</td>
<td>3x 80x80mm PWM redundant fans</td>
</tr>
<tr>
<td>Form Factor</td>
<td>319 x 281 x 258mm (12.56” x 32.31” x 10.16”)</td>
<td>319 x 281 x 258mm (12.56” x 32.31” x 10.16”)</td>
<td>516 x 650 x 450mm (20.3” x 25.6” x 17.7”)</td>
<td>516 x 650 x 450mm (20.3” x 25.6” x 17.7”)</td>
</tr>
<tr>
<td>MODEL</td>
<td>SYS-E200-12A-4C</td>
<td>SYS-E200-12A-8C</td>
<td>SYS-E302-12A-4C</td>
<td>SYS-E302-12A-8C</td>
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<tr>
<td>---------------------</td>
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</tr>
<tr>
<td>Processor Support</td>
<td>Intel® Atom® Processor C5315</td>
<td>Intel® Atom® Processor C5325</td>
<td>Intel® Atom® Processor C5315</td>
<td>Intel® Atom® Processor C5325</td>
</tr>
<tr>
<td></td>
<td>Single Socket FCBBGA2106 supported TDP up to 38W</td>
<td>Single Socket FCBBGA2106 supported TDP up to 41W</td>
<td>Single Socket FCBBGA2106 supported TDP up to 38W</td>
<td>Single Socket FCBBGA2106 supported TDP up to 41W</td>
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<tr>
<td>Key Applications</td>
<td>· Entry-level Network Appliance</td>
<td>· Entry-level Network Appliance</td>
<td>· Entry-level Network Appliance</td>
<td>· Entry-level Network Appliance</td>
</tr>
<tr>
<td></td>
<td>· Virtual-CPE White Box</td>
<td>· Virtual-CPE White Box</td>
<td>· Virtual-CPE White Box</td>
<td>· Virtual-CPE White Box</td>
</tr>
<tr>
<td></td>
<td>· Virtualization Server</td>
<td>· Virtualization Server</td>
<td>· Virtualization Server</td>
<td>· Virtualization Server</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>Intel® Atom® Parker Ridge processor C5315, TDP 38W</td>
<td>Intel® Atom® Parker Ridge processor C5325, TDP 41W</td>
<td>Intel® Atom® Parker Ridge processor C5315, TDP 38W</td>
<td>Intel® Atom® Parker Ridge processor C5325, TDP 41W</td>
</tr>
<tr>
<td></td>
<td>· System on Chip</td>
<td>· System on Chip</td>
<td>· System on Chip</td>
<td>· System on Chip</td>
</tr>
<tr>
<td></td>
<td>· Up to 128GB ECC RDIMM DDR4-2400MHz, in 2 DIMM slots</td>
<td>· Up to 128GB ECC RDIMM DDR4-2933MHz, in 2 DIMM slots</td>
<td>· Up to 128GB ECC RDIMM DDR4-2400MHz, in 2 DIMM slots</td>
<td>· Up to 128GB ECC RDIMM DDR4-2933MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td></td>
<td>1x M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3 &amp; USB3.0</td>
<td>1x M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3 &amp; USB3.0</td>
<td>1x M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3 &amp; USB3.0</td>
<td>1x M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3 &amp; USB3.0</td>
</tr>
<tr>
<td></td>
<td>1x M.2 M-Key 2280 w/PCIe3.0</td>
<td>1x M.2 M-Key 2280 w/PCIe3.0</td>
<td>1x M.2 M-Key 2280 w/PCIe3.0</td>
<td>1x M.2 M-Key 2280 w/PCIe3.0</td>
</tr>
<tr>
<td></td>
<td>1x dedicated LAN for IPMI</td>
<td>1x dedicated LAN for IPMI</td>
<td>1x dedicated LAN for IPMI</td>
<td>1x dedicated LAN for IPMI</td>
</tr>
<tr>
<td></td>
<td>2x 10Gbe SFP+ LAN ports</td>
<td>2x 10Gbe SFP+ LAN ports</td>
<td>2x 10Gbe SFP+ LAN ports</td>
<td>2x 10Gbe SFP+ LAN ports</td>
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<td>Serverboard</td>
<td>SUPER® A3SPI-4C-HLN4F</td>
<td>SUPER® A3SPI-8C-HLN4F</td>
<td>SUPER® A3SPI-4C-HLN4F</td>
<td>SUPER® A3SPI-8C-HLN4F</td>
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<td>Intel® SoC</td>
<td>Intel® SoC</td>
<td>Intel® SoC</td>
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<td>System Memory (Max.)</td>
<td>1x M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3 &amp; USB3.0</td>
<td>1x M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3 &amp; USB3.0</td>
<td>1x M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3 &amp; USB3.0</td>
<td>1x M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3 &amp; USB3.0</td>
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<td>Onboard Storage Controller</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
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<tr>
<td>VGA/Audio</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
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<td>Management</td>
<td>IPMI (Intelligent Platform Management Interface) v2.0 with KVM support; SuperDoctor® 5; Watchdog</td>
<td>IPMI (Intelligent Platform Management Interface) v2.0 with KVM support; SuperDoctor® 5; Watchdog</td>
<td>IPMI (Intelligent Platform Management Interface) v2.0 with KVM support; SuperDoctor® 5; Watchdog</td>
<td>IPMI (Intelligent Platform Management Interface) v2.0 with KVM support; SuperDoctor® 5; Watchdog</td>
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<td>Drive Bays</td>
<td>N/A</td>
<td>N/A</td>
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<td>Peripheral Bays</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
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<td>Power Supply</td>
<td>Lockable 12V DC 150W power adapter</td>
<td>Lockable 12V DC 150W power adapter</td>
<td>Lockable 12V DC 150W power adapter</td>
<td>Lockable 12V DC 150W power adapter</td>
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<tr>
<td>Cooling System</td>
<td>2 heavy duty fans(s)</td>
<td>2 heavy duty fans(s)</td>
<td>Fanless</td>
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<td>Form Factor</td>
<td>Mini-ITX Rackmount</td>
<td>Mini-ITX Rackmount</td>
<td>Compact Rackmount</td>
<td>Compact Rackmount</td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details
## IoT/Embedded

### Intel® Xeon® D-2146NT SoC, 8 Cores System

**Processor Support**

- Intel® Xeon® D-2146NT SoC, 2.3GHz, 8 Cores, 80W
- BIOS version 2.0 or above is required

**Key Applications**

- Network Security Appliance
- SDN-WAN, vCPE controller box
- NFV Edge Computing Server
- Virtualization Server
- IoT Edge Computing

**Outstanding Features**

- 8 LAN ports support(2 x 10G SFP+, 2 x 10GBase-T, 4 x GbE)
- 1 M.2 slot M key for SSD, 2242/80
- Short Depth
- Low Power
- Intel® QAT up to 20Gbps crypto + 20Gbps compression
- Intel® Quick Assist Technology

**System Memory (Max.)**

- 4 x DDR4 DIMM 512 GB up to 2667MHz LRDIMM or 256GB RDIMM, ECC
- Up to 4GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots
- Up to 256GB Registered ECC DDR4-2400MHz or 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz in 4 DIMM slots
- 512 GB up to 2666MHz DDR4 LRDIMM or 256GB RDIMM

**Expansion Slots**

- 4 x 10G SFP+, 2 x 10GBase-T, 4 x GbE
- 1 M.2 slot M key for SSD, 2242/80
- Short Depth
- Low Power
- Intel® QAT up to 20Gbps crypto + 20Gbps compression
- Intel® Quick Assist Technology

**Onboard Storage Controller**

- SoC controller for 4 SATA3 (6 Gbps) ports
- 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 3.0

**Connectivity**

- 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 3.0

**VGA/Audio**

- VGA via BMC

**Management**

- IPMI 2.0

**Drive Bays**

- 1x 3.5” or 4x 2.5”

**Peripheral Bays**

- N/A

**Power Supply**

- 200W Low Noise AC-DC power supply with PFC

**Cooling System**

- 3x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM)

**Form Factor**

- 437 x 43 x 249mm (17.2” x 1.7” x 9.8”)

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### Intel® Atom® C3850, SoC, 12 Cores, Rear I/O Short-Depth System

**Processor Support**

- Intel® Atom® C3850, SoC, 12 Cores, 25W

**Key Applications**

- Network Security Appliance
- Edge Computing Server
- Virtualization Server
- Network Security Appliance
- SD-WAN and vCPE

**Outstanding Features**

- 1 M.2 slot M key for SSD, 2242/80
- Short Depth
- Intel® QAT up to 20Gbps crypto + 20Gbps compression
- Intel® Quick Assist Technology

**System Memory (Max.)**

- 4 x DDR4 DIMM 512 GB up to 2667MHz LRDIMM or 256GB RDIMM, ECC
- Up to 4GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots
- Up to 256GB Registered ECC DDR4-2400MHz or 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz in 4 DIMM slots
- 512 GB up to 2666MHz DDR4 LRDIMM or 256GB RDIMM

**Expansion Slots**

- 4 x 10G SFP+, 2 x 10GBase-T, 4 x GbE
- 1 M.2 slot M key for SSD, 2242/80
- Short Depth
- Low Power
- Intel® QAT up to 20Gbps crypto + 20Gbps compression
- Intel® Quick Assist Technology

**Onboard Storage Controller**

- SoC controller for 4 SATA3 (6 Gbps) ports
- 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 3.0

**Connectivity**

- 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 3.0

**VGA/Audio**

- VGA via BMC

**Management**

- IPMI 2.0

**Drive Bays**

- 1x 3.5” or 4x 2.5”

**Peripheral Bays**

- N/A

**Power Supply**

- 200W Low Noise AC-DC power supply with PFC

**Cooling System**

- 2x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM)

**Form Factor**

- 437 x 43 x 249mm (17.2” x 1.7” x 9.8”)

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### Intel® Atom® C3758, SoC, 8 Cores, Front I/O Short-Depth System

**Processor Support**

- Intel® Atom® C3758, SoC, 8 Cores, 25W

**Key Applications**

- Network Security Appliance
- Edge Computing Server
- Virtualization Server
- Network Security Appliance
- Embedded IoT Computing

**Outstanding Features**

- 1 M.2 slot M key for SSD, 2242/80
- Short Depth
- Low Power
- Intel® QAT up to 20Gbps crypto + 20Gbps compression
- Intel® Quick Assist Technology

**System Memory (Max.)**

- 4 x DDR4 DIMM 512 GB up to 2667MHz LRDIMM or 256GB RDIMM, ECC
- Up to 4GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots
- Up to 256GB Registered ECC DDR4-2400MHz or 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz in 4 DIMM slots
- 512 GB up to 2666MHz DDR4 LRDIMM or 256GB RDIMM

**Expansion Slots**

- 4 x 10G SFP+, 2 x 10GBase-T, 4 x GbE
- 1 M.2 slot M key for SSD, 2242/80
- Short Depth
- Low Power
- Intel® QAT up to 20Gbps crypto + 20Gbps compression
- Intel® Quick Assist Technology

**Onboard Storage Controller**

- SoC controller for 4 SATA3 (6 Gbps) ports
- 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 3.0

**Connectivity**

- 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 3.0

**VGA/Audio**

- VGA via BMC

**Management**

- IPMI 2.0

**Drive Bays**

- 1x 3.5” or 4x 2.5”

**Peripheral Bays**

- N/A

**Power Supply**

- 200W Low Noise AC-DC power supply with PFC

**Cooling System**

- 2x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM)

**Form Factor**

- 437 x 43 x 249mm (17.2” x 1.7” x 9.8”)

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### AMD EPYC™ 3251 Processor

**Processor Support**

- Intel® Atom® C3758, SoC, 8 Cores, 25W

**Key Applications**

- Network Security Appliance
- Embedded IoT Computing

**Outstanding Features**

- 1 M.2 slot M key for SSD, 2242/80
- Short Depth
- Intel® QAT up to 20Gbps crypto + 20Gbps compression
- Intel® Quick Assist Technology

**System Memory (Max.)**

- 4 x DDR4 DIMM 512 GB up to 2667MHz LRDIMM or 256GB RDIMM, ECC
- Up to 4GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots
- Up to 256GB Registered ECC DDR4-2400MHz or 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz in 4 DIMM slots
- 512 GB up to 2666MHz DDR4 LRDIMM or 256GB RDIMM

**Expansion Slots**

- 4 x 10G SFP+, 2 x 10GBase-T, 4 x GbE
- 1 M.2 slot M key for SSD, 2242/80
- Short Depth
- Low Power
- Intel® QAT up to 20Gbps crypto + 20Gbps compression
- Intel® Quick Assist Technology

**Onboard Storage Controller**

- SoC controller for 4 SATA3 (6 Gbps) ports
- 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 3.0

**Connectivity**

- 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 3.0

**VGA/Audio**

- VGA via BMC

**Management**

- IPMI 2.0

**Drive Bays**

- 1x 3.5” or 4x 2.5”

**Peripheral Bays**

- N/A

**Power Supply**

- 200W Low Noise AC-DC power supply with PFC

**Cooling System**

- 2x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM)

**Form Factor**

- 437 x 43 x 249mm (17.2” x 1.7” x 9.8”)

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* Please check with your Supermicro sales representative and website for compatibility and configuration details
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5019A-FN5T</th>
<th>SYS-5019A-FTN10P</th>
<th>SYS-5018A-LTN4</th>
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</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom® Processor Denverton C3958, SoC, 16 Cores, 31W</td>
<td>Intel® Atom® Processor Denverton C3758, SoC, 8 Cores</td>
<td>Intel® Atom® Processor C2358, Single Socket FCBGA1283 supported, CPU TDP support up to 7W TDP</td>
</tr>
</tbody>
</table>
| Key Applications | - Network Security Appliance  
- Edge Computing Server  
- Virtualization Server | - Edge Computing Server  
- Virtualization Server  
- Network Security Appliance | - Network Security Appliance  
- FireWall Applications  
- Virtual Router  
- Embedded long-life to 2020  
- DDR3 up to 1333MHz up to 16 GB ECC SO-DIMM  
- Compact form factor less than 10" depth  
- Low Power |
| Outstanding Features | - Intel® Quick Assist Technology  
- 256GB DDR4 ECC RDIMM/64GB ECC UDIMM | - Intel® Quick Assist Technology ( QAT)  
- Intel® Single-Root I/O Virtualization (SR-IOV) | - Embedded long-life to 2020  
- DDR3 up to 1333MHz up to 16 GB ECC SO-DIMM  
- Compact form factor less than 10" depth  
- Low Power |
| Serverboard | SUPER® A25D-16C-TLNSF | SUPER® A25D-8C-LN10PF | SUPER® A15SI-2358F |
| Chipset | System on Chip | System on Chip chipset | System on Chip |
| System Memory (Max.) | Up to 256GB Registered ECC DDR4-2400MHz or 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz; in 4 DIMM slots | Up to 256GB Registered ECC RDIMM, DDR4-2400MHz  
Or 64GB Unbuffered ECC/Non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots | Up to 16GB Unbuffered ECC SO-DIMM, DDR3-1333MHz, in 2 DIMM slots |
| Expansion Slots | 1 PCI-E 3.0 x8, 1 x M.2 (M key for SSD, 2242/80, PCI-E3.0 x2 or SATA3), 1 B-Key (3042/2280 PCI-E 3.0 x2/SATA/USB) | 1 PCI-E 3.0 x4 | 1 PCI-E 2.0 x8 |
| Connectivity | 4x 10GBe LAN, 1x 1Gbe LAN port (PMI shared LAN), 4 USB 3.0 | 8x RJ45 Gbe LAN, 2x SFP Gbe LAN, 1 dedicated IPMI RJ45 Gbe LAN, 2x USB 3.0, 1 VGA | 4x 1Gbe LAN, 1 dedicated IPMI LAN, 2x USB 3.0, 1x VGA |
| VGA/Audio | VGA via BMC | Aspeed AST2400 BMC | Aspeed AST2400 BMC |
| Management | IPMI 2.0 | IPMI2.0, NMI, SuperDoctor* 5, Watchdog | IPMI2.0, NMI, SuperDoctor* 5, Watchdog |
| Drive Bays | 1x 3.5" or 2x 2.5" HDD | 1x 3.5" or 4x 2.5" internal drive bays | 1x 3.5" or 4x 2.5" internal drive bays |
| Peripheral Bays | N/A | N/A | N/A |
| Power Supply | 200W Low Noise AC-DC power supply with PFC | 1U 200W Multi-output power supply Gold level w/20pin | 1U 200W Multi-output power supply Gold level w/20pin |
| Cooling System | 3x 40x28mm 4-PIN PWM Fan (FAN-0065L4, 13K RPM) | 3x 40x28mm and 4-PIN PWM Fan (FAN-0065L4, 13K RPM) | 2x 40x28mm and 4-PIN PWM Fan (FAN-0065L4, 13K RPM) |
| Form Factor | 437 x 43 x 249mm (17.2" x 1.7" x 9.8") | 437 x 43 x 249mm (17.2" x 1.7" x 9.8") | 437 x 43 x 249mm (17.2" x 1.7" x 9.8") |

* Please check with your Supermicro sales representative and website for compatibility and configuration details
### MODEL | SYSTEMS
--- | ---
**SYS-1019D-FHN13TP**<br>**SYS-1019D-4C-FHN13TP**<br>**SYS-1019D-14CN-FHN13TP**<br>**SYS-1019D-16C-FHN13TP** | **SYS-1019D-FRN8TP**

**Processor Support**
- **SYS-1019D-FHN13TP**<br>**SYS-1019D-4C-FHN13TP**<br>**SYS-1019D-14CN-FHN13TP**<br>**SYS-1019D-16C-FHN13TP**
- Intel® Xeon® D 2146NT, 8 Cores, 16 Threads, 2.3 GHz, 80W<br>- 4C: Intel® Xeon® D 2123IT, 4 Cores, 8 Threads, 2.2 GHz, 60W<br>- 14CN: Intel® Xeon® D 2177NT, 14 Cores, 28 Threads, 1.9 GHz, 105W<br>- 16C: Intel® Xeon® D 2183IT, 16 Cores, 32 Threads, 2.2 GHz, 100W
- **SYS-1019D-FRN8TP**
- Intel® 2nd Gen Xeon® D 2146NT, 8 Core/16 Thread with built in QAT

**Key Applications**
- Multi-Access Edge Computing (MEC)<br>- Centralized/Cloud Radio Access Network (C-RAN)<br>- Universal Customer Premise Equipment (uCPE)<br>- Software Defined WAN (SD-WAN)<br>- Network Function Virtualization (NFV)<br>- Artificial Intelligence (AI)

**Outstanding Features**
- Dual PCI-E 3.0 x16 FHFL<br>- 2x 10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45<br>- 1x M.2 M-Key 2280/110, 1x M.2 B-Key 3042, 1x M.2 E-Key

**Serverboard**
- **SYS-1019D-FHN13TP**<br>**SYS-1019D-4C-FHN13TP**<br>**SYS-1019D-14CN-FHN13TP**<br>**SYS-1019D-16C-FHN13TP**
- SUPER® X11SDW-8C-TP13F<br>- 4C: SUPER® X11SDW-16C-TP13F<br>- 14CN: SUPER® X11SDW-14CNT-TP13F<br>- 16C: SUPER® X11SDW-16C-TP13F
- **SYS-1019D-FRN8TP**
- SUPER® X11SDV-8C-TPBF

**Chipset System on Chip (SoC)**
- Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM LRDIMM, in 4 DIMM slots
- DDR4-2666 512 LRDIMM or 256 Registered ECC RDIMM in 4 DIMM slots

**Expansion Slots**
- Dual PCI-E 3.0 x 16 full height full length expansion slot
- 1 PCI-E 3.0 x16, 1 M.2 M-Key for storage with 2242/2280, 1 Mini PCI-E x1

**Onboard Storage Controller**
- SoC controller for 4 SATA3 (6 Gbps) ports
- SoC with 12 SATA3 for RAID 0,1,5,10

**Connectivity**
- 2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0
- 4x 1GbE, 2x 10 GBase-T, 2x 10G SFP+, 1 dedicate IPMI LAN, 2x USB3.0

**VGA/Audio**
- VGA via BMC
- VGA via BMC

**Management**
- IPMI 2.0
- IPMI 2.0 (RJ45) with dedicated LAN port and KVM via BMC VGA

**Drive Bays**
- 2x External Hot-swap 2.5" Drive Bays, 2x Internal 2.5" Drive Bays
- 4x 2.5" Internal Fixed HDD bracket

**Peripheral Bays**
- N/A
- N/A

**Power Supply**
- **SYS-1019D-FHN13TP**<br>**SYS-1019D-4C-FHN13TP**<br>**SYS-1019D-14CN-FHN13TP**<br>**SYS-1019D-16C-FHN13TP**
- 1019D-FHN13TP / -4C: 350W Multi-output Platinum Level power supply; 14CN / -16C: 500W Multi-output Platinum Level power supply
- Redundant 400W 80Plus Platinum Level power supplies;

**Cooling System**
- 4 or 6 40x28mm PWM fans (up to 6)
- 4x 40x56mm cooling fan

**Form Factor**
- 437 x 43 x 381mm (17.2 x 1.7 x 15")
- 437 x 43 x 429mm (17.2 x 1.7 x 16.9")

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
Intel® Xeon® Processor D Compact Front Access 1U 2-Slot, Redundant AC PSUs, and Hot Swappable Fans

Intel® Xeon® Processor D Compact Front Access 1U 2-Slot, Redundant DC PSUs, and Hot Swappable Fans

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-1019D-4C-RAN13TP+</th>
<th>SYS-1019D-14CN-RAN13TP+</th>
<th>SYS-1019D-16C-RAN13TP+</th>
<th>SYS-1019D-4C-RDN13TP+</th>
<th>SYS-1019D-14CN-RDN13TP+</th>
<th>SYS-1019D-16C-RDN13TP+</th>
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</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>-4C: Intel® Xeon® Processor D-2123IT-br: Single Socket FCBGA-2518 supported, CPU TDP support up to 60W TDP&lt;br&gt;-14CN: Intel® Xeon® Processor D-2177NT, Single Socket FCBGA-2518 supported, CPU TDP support up to 105W TDP&lt;br&gt;-16C: Intel® Xeon® Processor D-2183IT, Single Socket FCBGA-2518 supported, CPU TDP support up to 100W TDP</td>
<td>-4C: Intel® Xeon® Processor D-2123IT-br: Single Socket FCBGA-2518 supported, CPU TDP support up to 60W TDP&lt;br&gt;-14CN: Intel® Xeon® Processor D-2177NT, Single Socket FCBGA-2518 supported, CPU TDP support up to 105W TDP&lt;br&gt;-16C: Intel® Xeon® Processor D-2183IT, Single Socket FCBGA-2518 supported, CPU TDP support up to 100W TDP</td>
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<tr>
<td>Key Applications</td>
<td>• Multi-Access Edge Computing (MEC)&lt;br&gt;• Centralized/Cloud Radio Access Network (C-RAN)&lt;br&gt;• Universal Customer Premise Equipment (uCPE)&lt;br&gt;• Software Defined WAN (SD-WAN)&lt;br&gt;• Network Function Virtualization (NFV)&lt;br&gt;• Artificial Intelligence (AI)</td>
<td>• Multi-Access Edge Computing (MEC)&lt;br&gt;• Centralized/Cloud Radio Access Network (C-RAN)&lt;br&gt;• Universal Customer Premise Equipment (uCPE)&lt;br&gt;• Software Defined WAN (SD-WAN)&lt;br&gt;• Network Function Virtualization (NFV)&lt;br&gt;• Artificial Intelligence (AI)</td>
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<td></td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• Intel® Xeon® Processor D-2123JT, 4 Cores, 8 Threads, 2.2 GHz, 60W&lt;br&gt;• 2x PCI-E 3.0 x16 FHFL&lt;br&gt;• 4x 10Gbe SFP+, 9x Gbe (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45, 1x VGA Port&lt;br&gt;• 1x M.2 M-Key 2280/22110, 1x M.2 B-Key 2242, 1x M.2 E-Key 2230&lt;br&gt;• 2x 2.5” Internal Drive Bay&lt;br&gt;• 800W AC Redundant PSU, 5x Hot-Swappable Fans</td>
<td>• Intel® Xeon® Processor D-2183JT Processor, 16 Cores, 32 Threads, 2.2 GHz, 100W&lt;br&gt;• 2x PCI-E 3.0 x16 FHFL&lt;br&gt;• 4x 10Gbe SFP+, 9x Gbe (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45, 1x VGA Port&lt;br&gt;• 1x M.2 M-Key 2280/22110, 1x M.2 B-Key 2242, 1x M.2 E-Key 2230&lt;br&gt;• 2x 2.5” Internal Drive Bay&lt;br&gt;• 600W DC Redundant PSU, 5x Hot-Swappable Fans</td>
<td></td>
<td></td>
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<tr>
<td>Serverboard</td>
<td>-4C: SUPER® X11SDW-4C-TP13F+&lt;br&gt;-14CN: SUPER® X11SDW-14CN-TP13F+&lt;br&gt;-16C: SUPER® X11SDW-16C-TP13F+</td>
<td>-4C: SUPER® X11SDW-4C-TP13F+&lt;br&gt;-14CN: SUPER® X11SDW-14CN-TP13F+&lt;br&gt;-16C: SUPER® X11SDW-16C-TP13F+</td>
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<td>Chipset</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td></td>
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</tr>
<tr>
<td>Expansion Slots</td>
<td>2x PCI-E 3.0 x16 FHFL</td>
<td>2x PCI-E 3.0 x16 FHFL</td>
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<tr>
<td>Onboard Storage Controller</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
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<tr>
<td>Connectivity</td>
<td>4 SFP+, 9 Gbe (one for Ethernet management), 1 dedicated IPMI LAN, 1 COM via RJ45, 2 USB 3.0, 1x VGA</td>
<td>4 SFP+, 9 Gbe (one for Ethernet management), 1 dedicated IPMI LAN, 1 COM via RJ45, 2 USB 3.0, 1x VGA</td>
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<tr>
<td>VGA/Audio</td>
<td>VGA via Aspeed AST2500 BMC</td>
<td>VGA via Aspeed AST2500 BMC</td>
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<td>Management</td>
<td>IPMI 2.0</td>
<td>IPMI 2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive Bays</td>
<td>2x 2.5” Internal Drive Bays</td>
<td>2x 2.5” Internal Drive Bays</td>
<td></td>
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<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Power Supply</td>
<td>800W Redundant Power Supply 80 PLUS Platinum</td>
<td>600W DC-48V input Redundant Power Supply</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cooling System</td>
<td>5x 40x56mm Hot Swappable Counter-Rotation PWM Fans</td>
<td>5x 40x56mm Hot Swappable Counter-Rotation PWM Fans</td>
<td></td>
<td></td>
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<tr>
<td>Form Factor</td>
<td>437 x 43 x 399mm (17.2” x 1.7” x 15.7”)</td>
<td>437 x 43 x 399mm (17.2” x 1.7” x 15.7”)</td>
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</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-1019D-16C-FRN5TP</th>
<th>SYS-1019D-14C-FRN5TP</th>
<th>SYS-1019D-12C-FRN5TP</th>
<th>SYS-1019D-8C-FRN5TP</th>
<th>SYS-1019D-4C-FRN5TP</th>
<th>SYS-1019D-2C-FRN5TP</th>
<th>SYS-E300-9A</th>
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</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>-16C: Intel® D-2183IT, 16C/32T, 2.2GHz, 100W</td>
<td>-14C: Intel® D-2173IT, 14C/28T, 1.7GHz, 70W</td>
<td>-12C: Intel® D-2163IT, 12C/24T, 2.1GHz, 75W</td>
<td>-10C: Intel® D-2146NT, 10C/20T, 2.3GHz, 65W</td>
<td>-8C: Intel® D-2135IT, 8C/16T, 2.3GHz, 60W</td>
<td>-6C: Intel® D-2128IT, 6C/12T, 2.1GHz, 55W</td>
<td>-4C: Intel® C3858, SoC 12 Cores, 25W, 2.0 GHz</td>
</tr>
<tr>
<td>Key Applications</td>
<td>- Centralized/Cloud Radio Access Network (C-RAN)</td>
<td>- Universal Customer Premise Equipment (uCPE)</td>
<td>- Software Defined Wide Area Network (SD-WAN)</td>
<td>- Network Function Virtualization (NFV)</td>
<td>- Embedded Networking Applications</td>
<td>- Network Security Appliance</td>
<td>- Firewall Applications</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>- 4x PCI-E 3.0 x8 slots for AIOM</td>
<td>- 4x PCI-E 3.0 x8 slots for AIOM</td>
<td>- 4x PCI-E 3.0 x8 slots for AIOM</td>
<td>- 4x PCI-E 3.0 x8 slots for AIOM</td>
<td>- Dual SFP+, Dual 10GbE-T and Quad GbE</td>
<td>- Short depth (less than 10 depth)</td>
<td>- Best Performance per Watt</td>
</tr>
<tr>
<td>Serverboard</td>
<td>-12C: SUPER® X11SDF-12C</td>
<td>-14C: SUPER® X11SDF-14C</td>
<td>-16C: SUPER® X11SDF-16C</td>
<td>SUPER® X11SDS-8C</td>
<td>SUPER® A2SDi-TP8F</td>
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<td></td>
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<tr>
<td>Chipset</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td></td>
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</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 256GB Registered ECC RDIMM or 512GB LRDIMM, DDR4-2400MHz in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM, in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>4 PCI-E3.0 x8 slots for AIOM**</td>
<td>4 PCI-E3.0 x8 slots for AIOM**</td>
<td>4 PCI-E3.0 x8 slots for AIOM**</td>
<td>4 PCI-E3.0 x8 slots for AIOM**</td>
<td>4 PCI-E3.0 x8 slots for AIOM**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connectivity</td>
<td>2x 10GbE(share with IPMI), 2x SFP+, 1x Ethernet Management Port, 1x COM via RJ45/micro USB, 1x M.2 E-Key</td>
<td>2x 10GbE(share with IPMI), 2x SFP+, 1x Ethernet Management Port, 1x COM via RJ45/micro USB, 1x M.2 E-Key</td>
<td>2x 10GbE(share with IPMI), 2x SFP+, 1x Ethernet Management Port, 1x COM via RJ45/micro USB, 1x M.2 E-Key</td>
<td>2x 10GbE(share with IPMI), 2x SFP+, 1x Ethernet Management Port, 1x COM via RJ45/micro USB, 1x M.2 E-Key</td>
<td>2x 10GbE(share with IPMI), 2x SFP+, 1x Ethernet Management Port, 1x COM via RJ45/micro USB, 1x M.2 E-Key</td>
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</tr>
<tr>
<td>VGA/Audio</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td></td>
<td></td>
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<tr>
<td>Drive Bays</td>
<td>2x 2.5” Drive Bays (one drive space shares with M.2), 2x 1E1.5(35°C ambient temperature only)</td>
<td>2x 2.5” Drive Bays (one drive space shares with M.2), 2x 1E1.5(35°C ambient temperature only)</td>
<td>2x 2.5” Drive Bays (one drive space shares with M.2), 2x 1E1.5(35°C ambient temperature only)</td>
<td>2x 2.5” Drive Bays (one drive space shares with M.2), 2x 1E1.5(35°C ambient temperature only)</td>
<td>2x 2.5” Drive Bays (one drive space shares with M.2), 2x 1E1.5(35°C ambient temperature only)</td>
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<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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</tr>
<tr>
<td>Power Supply</td>
<td>400W Redundant Power Supply, 8 PLUS Platinum</td>
<td>400W Redundant Power Supply, 8 PLUS Platinum</td>
<td>400W Redundant Power Supply, 8 PLUS Platinum</td>
<td>400W Redundant Power Supply, 8 PLUS Platinum</td>
<td>400W Redundant Power Supply, 8 PLUS Platinum</td>
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</tr>
<tr>
<td>Cooling System</td>
<td>5x 40x40x56 mm 13K-11K RPM Counter-rotating Fans</td>
<td>5x 40x40x56 mm 13K-11K RPM Counter-rotating Fans</td>
<td>5x 40x40x56 mm 13K-11K RPM Counter-rotating Fans</td>
<td>5x 40x28mm 4-PIN PWM Fan (FAN-0065L4, 13K RPM)</td>
<td>5x 40x28mm 4-PIN PWM Fan (FAN-0065L4, 13K RPM)</td>
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<tr>
<td>Form Factor</td>
<td>437 x 43 x 381mm (17.2” x 1.7” x 15”)</td>
<td>437 x 43 x 381mm (17.2” x 1.7” x 15”)</td>
<td>437 x 43 x 381mm (17.2” x 1.7” x 15”)</td>
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<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E200-9A</th>
<th>SYS-E403-9D-4C-FN13TP</th>
<th>SYS-E403-9D-12C-FN13TP</th>
<th>SYS-E403-9D-14C-FN13TP</th>
<th>SYS-E403-9D-16C-FN13TP</th>
<th>SYS-E403-9D-8CN-FN13TP</th>
<th>SYS-E403-9D-14CN-FN13TP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom® C3558, SoC 4 Cores, 16W, 2.2 GHz</td>
<td>-4C: Intel® D-2123IT, 4 Cores, 8 Threads, 2.2 GHz, 60W</td>
<td>-12C: Intel® D-2163IT, 12 Cores, 24 Threads, 2.1 GHz, 75W</td>
<td>-14C: Intel® D-2173IT, 14 Cores, 28 Threads, 1.7 GHz, 70W</td>
<td>-16C: Intel® D-2181IT, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
<td>-8CN: Intel® D-2146NT, 8 Cores, 16 Threads, 2.3 GHz, 80W</td>
<td>-14CN: Intel® D-2177NT, 14 Cores, 28 Threads, 1.9 GHz, 105W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>Virtualization Server, Virtual-CPE White Box, Entry-level Network Appliance</td>
<td>- Multi-Access Edge Computing (MEC)</td>
<td>- Universal Customer Premise Equipment (uCPE)</td>
<td>- Network Function Virtualization (NFV)</td>
<td>- Edge Computing, Vehicle to Everything Application (C-V2X / V2X)</td>
<td>- Multi-Access Edge Computing (MEC)</td>
<td>- Universal Customer Premise Equipment (uCPE)</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>Intel® TXT, improved AES-NI, QuickAssist Technology</td>
<td>- Dual PCI-E 3.0 x16 or Dual x8, One x16 PCI-E 3.0 (FHFL, 300mm)</td>
<td>- 2x 10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45</td>
<td>- 2x USB 3.0, 2x USB 2.0</td>
<td>- 1x M.2 Key 2280/110, 1x M.2 B-Key 3042, 1x M.2 E-Key 2230</td>
<td>- Dual PCI-E 3.0 x16 or Dual x8, One x16 PCI-E 3.0 (FHFL, 300mm)</td>
<td>- 2x 10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® A2SDi-4C-HLN4F</td>
<td>-4C: SUPER® X11SDW-4C-TP13F</td>
<td>-12C: SUPER® X11SDW-12C-TP13F</td>
<td>-14C: SUPER® X11SDW-14C-TP13F</td>
<td>-16C: SUPER® X11SDW-16C-TP13F</td>
<td>-8CN: SUPER® X11SDW-8C-TP13F</td>
<td>-14CN: SUPER® X11SDW-14CN-TP13F</td>
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<tr>
<td>Chipset</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
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<tr>
<td>System Memory (Max.)</td>
<td>256GB Registered ECC, DDR4-2133MHz 64GB</td>
<td>Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400/2133 MHz in 4 DIMM slots</td>
<td>Dual x16 or Dual x8, One x16 PCI-E 3.0 (FHFL, 300mm)</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2x USB 2.0</td>
<td>Dual x16 or Dual x8, One x16 PCI-E 3.0 (FHFL, 300mm)</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>M.2 (Key 2242/2280, 2x3.0, 2x4.0 x2)</td>
<td>Dual x16 or Dual x8, One x16 PCI-E 3.0 (FHFL, 300mm)</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2x USB 2.0</td>
<td>2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2x USB 2.0</td>
<td>Dual x16 or Dual x8, One x16 PCI-E 3.0 (FHFL, 300mm)</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 2.0, 1 USB 3.0 type A</td>
<td>4x Internal 2.5&quot; Drive Bays</td>
<td>4x Internal 2.5&quot; Drive Bays</td>
<td>4x Internal 2.5&quot; Drive Bays</td>
<td>4x Internal 2.5&quot; Drive Bays</td>
<td>4x Internal 2.5&quot; Drive Bays</td>
<td>4x Internal 2.5&quot; Drive Bays</td>
</tr>
<tr>
<td>Connectivity</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>VGA/Audio</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
</tr>
<tr>
<td>Management</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>1x 2.5&quot; SSD fixed drive bay</td>
<td>4x Internal 2.5&quot; Drive Bays</td>
<td>4x Internal 2.5&quot; Drive Bays</td>
<td>4x Internal 2.5&quot; Drive Bays</td>
<td>4x Internal 2.5&quot; Drive Bays</td>
<td>4x Internal 2.5&quot; Drive Bays</td>
<td>4x Internal 2.5&quot; Drive Bays</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
</tr>
<tr>
<td>Cooling System</td>
<td>2x 40x28mm 4-PIN PWM FAN/FAN-006SL4, 13K RPM</td>
<td>3x 80x80mm PWM redundant fans</td>
<td>3x 80x80mm PWM redundant fans</td>
<td>3x 80x80mm PWM redundant fans</td>
<td>3x 80x80mm PWM redundant fans</td>
<td>3x 80x80mm PWM redundant fans</td>
<td>3x 80x80mm PWM redundant fans</td>
</tr>
<tr>
<td>Form Factor</td>
<td>1U Compact Box; Enclosure: 195 x 43 x 226mm (7.68” x 1.7” x 8.9”)</td>
<td>Enclosure: 267 x 109 x 406mm (10.5” x 4.3” x 16”)</td>
<td>406 x 248 x 546mm (16” x 9.75” x 21.5”)</td>
<td>Gross Weight: 63lbs (28.9kg)</td>
<td>Net Weight: 17lbs (7.71kg)</td>
<td>Enclosure: 267 x 109 x 406mm (10.5” x 4.3” x 16”)</td>
<td>406 x 248 x 546mm (16” x 9.75” x 21.5”)</td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
**Intel® Xeon® D System**

- **MODEL**: SYS-E403-9D-4C-FRN13+  
  SYS-E403-9D-14CN-FRN13+  
  SYS-E403-9D-16C-FRN13+

- **Processor Support**
  - 4C: Intel® Xeon® D-2123IT Processor, 4 Cores, 8 Threads, 2.2 GHz, 60W  
  - 16C: Intel® Xeon® D-2183IT Processor, 16 Cores, 32 Threads, 2.2 GHz, 100W  
  - 14CN: Intel® Xeon® D-2177NT Processor, 14 Cores, 28 Threads, 1.9 GHz, 105W

- **Key Applications**
  - Multi-Access Edge Computing (MEC)  
  - Universal Customer Premise Equipment (uCPE)  
  - Network Function Virtualization (NFV)  
  - Edge Computing, Vehicle to Everything Application (C-V2X / V2X)

- **Outstanding Features**
  - Dual PCIe3.0 x16 or Dual x8, One x16 PCIe3.0 (FH3/4L)  
  - 2x 10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45  
  - Operating Temperature 0°C – 50°C (32°F – 122°F)

- **Serverboard**
  - 4C: SUPER® X11SDW-4C-TP13F+  
  - 16C: SUPER® X11SDW-16C-TP13F+  
  - 14CN: SUPER® X11SDW-14CN-TP13F+

- **Chipset**
  - System on Chip (SoC) System on Chip (SoC)

- **System Memory**
  - Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz; in 4 DIMM slots

- **Expansion Slots**
  - Dual x16 or Dual x8, One x16 PCI-E3.0 full height 3/4 length expansion slot

- **Onboard Storage Controller**
  - SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10

- **Connectivity**
  - 2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0

- **VGA/Audio**
  - VGA via BMC

- **Management**
  - Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog

- **Drive Bays**
  - 4x Internal 2.5” Drive Bays

- **Peripheral Bays**
  - N/A

- **Power Supply**
  - -FRDN13+: 600W DC-48V Input Redundant Power Supply  
  - -FRN13+: 800W Redundant Power Supply, 80 PLUS Platinum

- **Cooling System**
  - 3x 80x80mm PWM redundant fans

- **Form Factor**
  - 267 x 117 x 406mm (10.5” x 4.62” x 16”)

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
### Intel® Xeon® Processors

<table>
<thead>
<tr>
<th>Model</th>
<th>Processor Support</th>
<th>Key Applications</th>
<th>Outstanding Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SYS-E302-12D-4C</strong></td>
<td>Intel® Xeon® Processor D-1718T, 4 Cores/8 Threads CPU TDP 46W, Single Socket FCBBGA-2227 supported up to 46W</td>
<td>- IoT Gateway&lt;br&gt;- Machine Learning&lt;br&gt;- Artificial Intelligence&lt;br&gt;- Industrial Automation&lt;br&gt;- Retail&lt;br&gt;- Embedded Networking Applications&lt;br&gt;- SD WAN&lt;br&gt;- Network Security Appliance</td>
<td>- Wall Mount Bracket&lt;br&gt;- Intel® Ice Lake Xeon D-1718T 10MB 4 Cores 2.6GHz; 46W&lt;br&gt;- Up to DDR4 2933MHz 256GB RDIMM or 128GB UDIMM&lt;br&gt;- 1x M.2 B-Key (3042/3052/2280)&amp;Nano SIM Slot&lt;br&gt;- 1 Dedicated IPMI LAN&lt;br&gt;- 6 Networking Interface (2 x25G SFP28, 4 x 1GBE)</td>
</tr>
<tr>
<td><strong>SYS-E302-12D-8C</strong></td>
<td>Intel® Xeon® Processor D-1736NT, 8 Cores/16 Threads CPU TDP 67W, Single Socket FCBBGA-2227 supported up to 67W</td>
<td>- IoT Gateway&lt;br&gt;- Machine Learning&lt;br&gt;- Artificial Intelligence&lt;br&gt;- Industrial Automation&lt;br&gt;- Retail&lt;br&gt;- Embedded Networking Applications&lt;br&gt;- SD WAN&lt;br&gt;- Network Security Appliance</td>
<td>- Wall Mount Bracket&lt;br&gt;- Intel® Ice Lake Xeon D-1736NT 15MB 8 Cores 2.7GHz QAT 20G; 67W&lt;br&gt;- Up to DDR4 2933MHz 256GB RDIMM or 128GB UDIMM&lt;br&gt;- 1x M.2 B-Key (3042/3052/2280)&amp;Nano SIM Slot&lt;br&gt;- 1 Dedicated IPMI LAN&lt;br&gt;- 6 Networking Interface (2 x25G SFP28, 4 x 1GBE)</td>
</tr>
<tr>
<td><strong>SYS-E302-12E</strong></td>
<td>Intel® Atom® Processor x6425E, Fanless, SoC, 4 Cores, 12W, Single Socket Single Socket FCBGA-1493 supported up to 12W</td>
<td>- Retail, Banking&amp;Smart City&lt;br&gt;- Digital Signage&amp;Data Visualization&lt;br&gt;- Process Automation</td>
<td>- Intel® Elkhart Lake up to 4C/12W&lt;br&gt;- 1x M.2 B-Key;&lt;br&gt;- 1x M.2 E-Key;&lt;br&gt;- Rich I/O Ports: 6x USB3.0, 2x USB2.0, 4x COM, 4x LAN&lt;br&gt;- 1 xfied 2.5 drive bay with bracket (Wide Temp required)&lt;br&gt;- Fanless Cooling&lt;br&gt;- Wide Temperature -20°C to 60°C (-4°F to 140°F)&lt;br&gt;- Lockable 12V DC 150W/180W Power Adapter&lt;br&gt;- Tri independent Displays: 1x HDMI 2.0b (4K60Hz), 1x DP 1.4, 1x VGA</td>
</tr>
</tbody>
</table>

### Serverboard

- **SUPER® X12SDV-4C-SP6F**
- **SUPER® X12SDV-8C-SP6F**
- **SUPER® A3SEV-4C-LN4**

### Chipset

- Intel® SoC
- Intel® SoC
- Intel® x6425E

### System Memory (Max.)

- 4 DIMM slots
- Up to 256GB ECC RDIMM, DDR4-2933MHz
- 4 DIMM slots
- Up to 256GB ECC RDIMM, DDR4-2933MHz
- 2 DIMM slots
- Up to 32GB SO-DIMM, DDR4-3200MHz

### Expansion Slots

- M.2 M-Key 2280/ B-Key 2280/3042/3052/ E-Key 2230
- M.2 M-Key 2280/ B-Key 2280/3042/3052/ E-Key 2230
- M.2 M-Key 2280/ B-Key 2280/3042/3052/ E-Key 2230

### Onboard Storage Controller

- Intel® SATA
- Intel® SATA
- Intel® SATA

### Connectiviy

- 4x 1Gbe RJ45 port(s)

### VGA/Audio

- 1 VGA port
- 1 VGA port
- 1 VGA port

### Management

- Chassis intrusion header and detection; SuperDoctor® 5; Trusted Platform Module (TPM) support
- Chassis intrusion header and detection; SuperDoctor® 5; Trusted Platform Module (TPM) support
- SuperDoctor® 5; Trusted Platform Module (TPM) support; Watch Dog

### Drive Bays

- 1x 2.5 SATA/PCIe drive bays;
- 1x 2.5 SATA/PCIe drive bays;
- 1x 2.5 SATA drive bays;

### Peripheral Bays

- None
- None
- None

### Power Supply

- Lockable 12V DC 150W power adapter

### Cooling System

- heavy duty fan(s)
- heavy duty fan(s)
- heavy duty fan(s)

### Form Factor

- Compact Rackmount<br>  Enclosure: 295 x 76 x 206mm (11.6" x 3" x 8.1")<br>  Package: 418 x 305 x 194mm (16.45" x 12" x 7.6")
- Compact Rackmount<br>  Enclosure: 295 x 76 x 206mm (11.6" x 3" x 8.1")<br>  Package: 418 x 305 x 194mm (16.45" x 12" x 7.6")
- Compact Rackmount<br>  Enclosure: 295 x 76 x 206mm (11.6" x 3" x 8.1")<br>  Package: 418 x 305 x 194mm (16.45" x 12" x 7.6")

*Please check with your Supermicro sales representative and website for compatibility and configuration details.
**IoT/Embedded**

**5G/Edge/IoT/Embedded Building Block Solutions - May 2023**

**MODEL** | **AS -E301-9D-8CN4** | **SYS-E301-9D-8CN8TP** | **SYS-E302-9A** | **SYS-E302-9D**
---|---|---|---|---
Processor Support | AMD EPYC™ 3251 SoC Processor, 8 Core/16 Thread, 2.5GHz / 50w | Intel® Xeon® D-2146NT, 8 Core, 80W | Intel® Atom® Processor C3558.<br>Single Socket FCBJGA-1310 supported, CPU TDP support up to 16W TDP | Intel® Xeon® D-2123IT, 4-Core, 60W

**Key Applications**
- **AMD Embedded EPYC™ 3251 SoC Processor, 8 Core/16 Thread**
- **1 M.2 M-key for NVMe, 2242/80**
- **1 PCIe3.0 x16 expansion for AOC**
- **IPMI 2.0 management with dedicated LAN**
- **7 year life cycle**
- **Best Performance per Watt**

**Outstanding Features**
- **AMD Embedded EPYC™ 3251 SoC Processor, 8 Core/16 Thread**
- **1 M.2 M-key for NVMe, 2242/80**
- **1 PCIe3.0 x16 expansion for AOC**
- **IPMI 2.0 management with dedicated LAN**
- **7 year life cycle**
- **Best Performance per Watt**

**Serverboard**
- **SUPER® M115DV-8C-LN4F**
- **SUPER® X115DV-8C-TP8F**
- **SUPER® A2SDi-4C-HLN4F**
- **SUPER® X115DV-4C-TP8F-01**

**Chipset**
- **System on Chip**
- **System On Chip**
- **System on Chip**
- **System on Chip**

**System Memory (Max.)**
- DDR4 512GB up to 2666MHz ECC/ Non-ECC RDIMM, UDIMM, LRIMM in 4 DIMM slots
- DDR4-2666 512GB LRIMM or 256GB Registered ECC RDIMM in 4 DIMM slots
- Up to 256GB Registered ECC RDIMM, DDR4-2133MHz <br>Or 64GB Unbuffered ECC/Non-ECC UDIMM, DDR4-2133MHz, in 4 DIMM slots

**Expansion Slots**
- 1 PCI Express 3.0 x16 AOC slot (LP), 1 M.2/M Key for NVMe, 2242/80
- 1 PCI Express 3.0 x8 slots
- 1x M.2 M Key 2242/2280 (PCI-E 3.0 x2)
- 1 PCI-E 3.0 x8

**Onboard Storage Controller**
- SoC controller for 4x SATA3.0
- SoC controller for 2x SATA 3.0
- SoC controller for 2 SATA3 ports; RAID D1

**Connectivity**
- 4x 1GbE LAN, 1x Dedicated IPMI LAN, 2 USB 3.0
- 2x 10G SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1x dedicated IPMI LAN, 2 USB 3.0
- 2x 10G SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 2.0
- 2x 10G SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 3.0

**VGA/Audio**
- VGA via BMC
- VGA via BMC
- Aspeed AST2400 BMC
- Aspeed AST2500 BMC

**Management**
- IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog
- IPMI 2.0, KVM with dedicated LAN, Watchdog
- IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog
- IPMI2.0, KVM with dedicated LAN, Watchdog

**Drive Bays**
- 2x 2.5" fixed drive bay bracket, supporting 15mm 2.5" Enterprise drive
- Support up to 4x 7mm SSD
- 2x 2.5" 7mm fixed drive bay
- 2x 2.5" fixed drive bay with bracket

**Peripheral Bays**
- N/A
- N/A
- N/A
- N/A

**Power Supply**
- Lockable 12V DC 150W power adapter
- DC power adapter
- Lockable 12V DC 60W power adapter
- 150W 12V Lockable DC Power Adapter; Optional 180W 12V Lockable DC Power Adapter

**Cooling System**
- 3x 40x28mm 4-PIN PWM Fan (FAN-0100L4, 8.5K RPM)
- Passive CPU heat sink, 3x 40x28mm 4-PIN PWM Fan for System level (FAN-0100L4, 8.5K RPM)
- Fanless
- Fanless

**Form Factor**
- 254 x 66 x 226mm (10” x 2.6” x 8.9”)
- 254 x 66 x 226mm (10” x 2.6” x 8.9”)
- 295 x 76 x 206mm (11.6” x 3” x 8.1”)
- 295 x 76 x 206mm (11.6” x 3” x 8.1”)

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## IoT/Embedded

### Intel® Atom® C3558/C3758, SoC, 4/8 Cores

**MODEL** | **SYS-E300-9A-4CN10P** | **SYS-E300-9A-8CN10P** | **SYS-E300-9A-4CN8** | **SYS-E300-9A-8CN8** | **SYS-E300-9A-4C** | **SYS-E300-9A-8C**
---|---|---|---|---|---|---
**Processor Support** | -4CN10P: Intel® Atom® Processor Denverton C3558, SoC 4 Cores, 16W, 2.2 GHz | -4CN10P: Intel® Atom® Processor Denverton C3558, SoC 4 Cores, 16W, 2.2 GHz | -4CN8: Intel® Atom® Processor Denverton C3558, SoC 8 Cores, 25W, 2.2 GHz | -4CN8: Intel® Atom® Processor Denverton C3558, SoC 8 Cores, 25W, 2.2 GHz | -4C: Intel® Atom® Processor Denverton C3558, SoC 4 Cores, 16W, 2.2 GHz | -8C: Intel® Atom® Processor Denverton C3558, SoC 8 Cores, 25W, 2.2 GHz
**Key Applications** | - Virtual-CPE White Box Solution | - Virtual-CPE White Box Solution | - Virtual-CPE White Box Solution | - Virtual-CPE White Box Solution | - Virtual-CPE White Box Solution | - Virtual-CPE White Box Solution
**Outstanding Features** | - Best Performance per Watt | - Best Performance per Watt | - Best Performance per Watt | - Best Performance per Watt | - Best Performance per Watt | - Best Performance per Watt
**Serverboard** | -8C: SUPER | -8C: SUPER | -8C: SUPER | -8C: SUPER | -8C: SUPER | -8C: SUPER
**Chipset** | System on Chip | System on Chip | System on Chip | System on Chip | System on Chip | System on Chip
**System Memory (Max.)** | Up to 256GB Registered ECC DDR4-2133MHz, up to 64GB Unbuffered ECC/Non-ECC DDR4-2133MHz; in 4 DIMM slots | Up to 256GB Registered ECC DDR4-2400MHz, up to 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz; in 4 DIMM slots | Up to 256GB Registered ECC DDR4-2400MHz, up to 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz; in 4 DIMM slots | Up to 256GB Registered ECC DDR4-2400MHz, up to 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz; in 4 DIMM slots | Up to 256GB Registered ECC DDR4-2400MHz, up to 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz; in 4 DIMM slots | Up to 256GB Registered ECC DDR4-2400MHz, up to 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz; in 4 DIMM slots
**Expansion Slots** | -4CN10P: 1x PCI Express 3.0 x2 AOC slot (LP) when SSD isn’t populated, 1 M.2 B Key 3042/2280(PCI-E 3.0 x2) | -8CN10P: 1x PCI Express 3.0 x4 AOC slot (LP) when SSD isn’t populated, 1x M.2 M Key 2242/2280(PCI-E 3.0 x2 x2 or SATA3.0), 1x M.2 B Key 3042/2280(PCI-E 3.0 x2) | -4CN8: 1x PCI Express 3.0 x2 AOC slot (LP) when only 1 SSD populated, 1 M.2 B Key 3042/2280(PCI-E 3.0 x2) | -8CN8: 1x PCI Express 3.0 x4 AOC slot (LP) when only 1 SSD populated, 1x M.2 M Key 2242/2280(PCI-E 3.0 x2 or SATA3.0), 1x M.2 B Key 3042/2280(PCI-E 3.0 x2) | -4C: 1x PCI Express 3.0 x4 AOC slot (LP), 1x M.2 M Key 2242/2280(PCI-E 3.0 x2) | -8C: 1x PCI Express 3.0 x4 AOC slot (LP), 1x M.2 M Key 2242/2280(PCI-E 3.0 x2)
**Onboard Storage Controller** | SoC controller for 3x SATA3.0 | SoC controller for 4x SATA3.0 | SoC controller for 4x SATA3.0 | SoC controller for 4x SATA3.0 | SoC controller for 4x SATA3.0 | SoC controller for 4x SATA3.0
**Connectivity** | 8x 1GbE RJ45 and 2x 1G SFP, 1 dedicated IPMI LAN, 2 USB3.0, Optional Console port by request | 8x 1GbE, 1 dedicated IPMI LAN, 2 USB3.0, Optional Console port by request | 8x 1GbE, 1 dedicated IPMI LAN, 2 USB2.0, Optional Console port by request | 8x 1GbE, 1 dedicated IPMI LAN, 2 USB2.0, Optional Console port by request | 8x 1GbE, 1 dedicated IPMI LAN, 2 USB2.0, Optional Console port by request | 8x 1GbE, 1 dedicated IPMI LAN, 2 USB2.0, Optional Console port by request
**VGA/Audio** | VGA via BMC | VGA via BMC | VGA via BMC | VGA via BMC | VGA via BMC | VGA via BMC
**Management** | OOB, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor’ 5, Watchdog | OOB, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor’ 5, Watchdog | OOB, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor’ 5, Watchdog | OOB, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor’ 5, Watchdog | OOB, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor’ 5, Watchdog | OOB, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor’ 5, Watchdog
**Drive Bays** | 1x 2.5” fixed drive bay when AOC area is not occupied. | 1x 2.5” fixed drive bay when AOC area is not occupied. | 1x 2.5” fixed drive bay when AOC area is not occupied. | 1x 2.5” fixed drive bay when AOC area is not occupied. | 1x 2.5” fixed drive bay when AOC area is not occupied. | 1x 2.5” fixed drive bay when AOC area is not occupied.
**Peripheral Bays** | N/A | N/A | N/A | N/A | N/A | N/A
**Power Supply** | Lockable 12V DC 84W power adapter | Lockable 12V DC 84W power adapter | Lockable 12V DC 84W power adapter | Lockable 12V DC 84W power adapter | Lockable 12V DC 84W power adapter | Lockable 12V DC 84W power adapter
**Cooling System** | 1x 40x28mm 4-PIN PWM Fan/FAN-0065L4, 13K RPM, Optional 1x Fan by request | 1x 40x28mm 4-PIN PWM Fan/FAN-0065L4, 13K RPM, Optional 1x Fan by request | 1x 40x28mm 4-PIN PWM Fan/FAN-0065L4, 13K RPM, Optional 1x Fan by request | 1x 40x28mm 4-PIN PWM Fan/FAN-0065L4, 13K RPM, Optional 1x Fan by request | 1x 40x28mm 4-PIN PWM Fan/FAN-0065L4, 13K RPM, Optional 1x Fan by request | 1x 40x28mm 4-PIN PWM Fan/FAN-0065L4, 13K RPM, Optional 1x Fan by request
**Form Factor** | 254 x 43 x 226mm (10” x 1.7” x 8.9”)* | 254 x 43 x 226mm (10” x 1.7” x 8.9”)* | 254 x 43 x 226mm (10” x 1.7” x 8.9”)* | 254 x 43 x 226mm (10” x 1.7” x 8.9”)* | 254 x 43 x 226mm (10” x 1.7” x 8.9”)* | 254 x 43 x 226mm (10” x 1.7” x 8.9”)*

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E300-9C</th>
<th>SYS-E300-9D-8CN8TP</th>
<th>SYS-E300-9D-4CN8TP</th>
<th>SYS-E300-9A-16CN8TP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>8th Generation Intel® Core™ i7/15/13/ Pentium®/Celeron® Processor</td>
<td>Intel® Skylake Xeon® D-2146NT SoC, 2.3GHz, 8 Core, 80W</td>
<td>Intel® Xeon® D-213IT, 4 Cores, 60W</td>
<td>Intel® Atom® Processor Denerton C3958, SoC, 16 Cores, 31W, 2.0 GHz</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• IoT Edge Computing • DVR/NVR • Machine Automation • Digital Signage • Medical Applications • IoT Gateway</td>
<td>• SDN-WAN, vCPE controller box • NFI Edge Computing Server • Virtualization Server • FireWall Applications • IoT Edge Computing</td>
<td>• SDN-WAN, vCPE controller box • NFI Edge Computing Server • Virtualization Server • FireWall Applications • IoT Edge Computing</td>
<td>• Embedded Networking Applications • Network Security Appliance • FireWall Applications • Virtualization Server</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• Coffee Lake 8th Gen Core i3/5/7 • Embedded long-life • 1U Box Edge Devices • TPM onboard</td>
<td>• Built in Intel® QAT up to 40Gbps Crypto/Compression • Supports up to 8 high Density SRL-D SoC processor for edge network computing • High Memory Bandwidth-Supports 4 DDR4 channel DIMMs (EC/LRDIMM or ECC RDIMM) with up to 2133 MHz memory speed, Max memory capacity up to 512GB on LRDIMM • 8 LAN ports support (2 x 10G SFP+, 2 x 10GbE-T, 4 x GbE) • Support on board 1 M.2 slot M key for SSD, 2242/80, 1 M.2 B Key for SSD/WAN card, 1 Mini PCI-E with mSATA Support</td>
<td>• 8 LAN ports support (2 x 10G SFP+, 2 x 10GbE-T, 4 x GbE) • 1 M.2 slot M key for SSD, 2242/80, 1 M.2 B Key for SSD/WAN card, 1 Mini PCI-E with mSATA Support</td>
<td>• Dual SFP+, Dual 10GBase-T and Quad GDE • Short depth (less than 10 depth) • Best Performance per Watt • 7 year life cycle • IPMI 2.0 management with dedicated LAN</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X11SCV-Q</td>
<td>SUPER® X11SDV-8C-TP8F</td>
<td>SUPER® X11SDV-4C-TP8F</td>
<td>SUPER® A25SDI-16C-TP8F</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2666MHz, in 2 DIMM slots</td>
<td>DDR4-2666 512GB LRDIMM or 256GB Registered ECC RDIMM in 4 DIMM slots</td>
<td>DDR4-2666 512GB LRDIMM or 256GB Registered ECC RDIMM in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1x PCI Express 3.0 x16 AOC slot (LP) and M.2 M key; SATA/PCI-E 3.0 x4, support 2242/2280 length; M.2 E KEY: PCI-E 3.0 x1, support 2230 length</td>
<td>1 Mini-PCI-E with mSATA Support, 1 PCI-E 3.0x8 slots,</td>
<td>1 Mini-PCI-E with mSATA Support, 1 PCI-E 3.0x8 slots,</td>
<td>1 PCI Express 3.0 x4 AOC slot (LP), 1 M.2(M Key for SSD 2242/80, PCI-E/SATA3.0), 1 Mini-PCI-E /w mSATA Half Size</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>Q370 controller for 2 SATA3 ports; RAID 0.1</td>
<td>SoC controller for 4x SATA3 (6 Gbps) ports</td>
<td>SoC controller for 4x SATA3 (6 Gbps) ports</td>
<td>SoC controller for 2x SATA3.0</td>
</tr>
<tr>
<td>Connectivity</td>
<td>2 x 1GBe LAN with AMT, 4 x USB 3.1 (2 Type A &amp; 2 Type C in rear), HD Audio(Mic In/Out)</td>
<td>2 x 10G SFP+, 2 x 10GbE LAN, 4x 1GbE LAN, 1x dedicated IPMI LAN, 2 USB 3.0</td>
<td>2 x 10G SFP+, 2 x 10GbE LAN, 4x 1GbE LAN, 1x dedicated IPMI LAN, 2 USB 3.0</td>
<td>2 x 10GbE SFP+, 2 x 10GbE LAN, 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 3.0</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>1 DVI-D, 1 HDMI, 1DP(DisplayPort), 3 Independent displays; 1 eDP(Embedded DisplayPort)</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
</tr>
<tr>
<td>Management</td>
<td>AMT, NMI, SuperDoctor®, vPro, Watchdog</td>
<td>IPMI 2.0, KVM with dedicated LAN, Watchdog</td>
<td>IPMI 2.0, KVM with dedicated LAN, Watchdog</td>
<td>Intel’ Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor®, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>2x 2.5” fixed drive bay</td>
<td>1x 2.5” fixed drive bay with bracket. (No 2.5” fixed drive bay when AOC area is occupied.)</td>
<td>1x 2.5” fixed drive bay with bracket. (No 2.5” fixed drive bay when AOC area is occupied.)</td>
<td>2x 2.5” fixed drive bay: one bracket, one on base mount. (1x 2.5&quot; fixed drive bay when AOC area is occupied.)</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 150W power adapter</td>
<td>DC power adapter</td>
<td>DC power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
</tr>
<tr>
<td>Cooling System</td>
<td>2x 4cm high performance PWM fan; optional for 1x fan to add-on card area cooling</td>
<td>Passive CPU heat sink, 3x 40x28mm 4-PIN PWM Fan for System level (FAN-0100L4, 8.5 RPM)</td>
<td>Passive CPU heat sink, 3x 40x28mm 4-PIN PWM Fan for System level (FAN-0100L4, 8.5 RPM)</td>
<td>2x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM)</td>
</tr>
<tr>
<td>Form Factor</td>
<td>254 x 43 x 226mm (10” x 1.7” x 8.9&quot;)</td>
<td>254 x 43 x 226mm (10” x 1.7” x 8.9&quot;)</td>
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<td>254 x 43 x 226mm (10” x 1.7” x 8.9&quot;)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
## Intel® Xeon® D2123IT SoC, 4-Cores, 8 Thread

- **SoC**: Intel® Xeon® D2123IT
- **CPU Core**: 4-Cores
- **CPU Thread**: 8 Thread
- **TDP**: 60W

## Intel® Xeon® D-1518 SoC, 4 Core

- **SoC**: Intel® Xeon® D-1518
- **CPU Core**: 4 Core
- **TDP**: 35W, 2.2 GHz

## Intel® Xeon® D-1528 SoC, 6-Cores

- **SoC**: Intel® Xeon® D-1528
- **CPU Core**: 6 Core
- **TDP**: 35W, 1.9 GHz

### Processor Support

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E300-9D</th>
<th>SYS-E300-8D</th>
<th>SYS-E200-8D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Skylake Xeon® D-2123IT SoC, 2.2GHz, 4 Core, 8 Thread, TDP 60W</td>
<td>Intel® Xeon® Processor D-1518, SoC 4 Core, 35W, 2.2 GHz</td>
<td>Intel® Xeon® Processor D-1528, SoC 6 Core, 35W, 1.9 GHz</td>
</tr>
</tbody>
</table>

### Key Applications

- Network Security Appliance
- SDN-WAN, vCPE controller box
- NFV Edge Computing Server
- Virtualization Server
- IoT Gateway

- Dual SFP+ and 6 GbE
- Short depth (less than 10 depth)
- Low Power Xeon® D SoC 4 Core
- Best Performance per Watt
- 7 year life cycle
- IPMI 2.0 management with dedicated LAN

### Outstanding Features

- Supports up to 4C high density SKL-D SoC processor for edge network computing
- High Memory Bandwidth-Supports 4 DDR4 channel DIMMs(ECR LRDIMM or ECC RDIMM) with up to 2400 MHz memory speed, Max memory capacity up to 512GB on LRDIMM
- 1x Low Profile PCI-E 3.0 x 8 slot, 1 on board Oculink port(1x PCI-Ex4 NVMe for NVMe SSD)
- 2 x 10GBase-T ethernet ports RMSA support
- 2 x USB 3.0, 1 x SATA 3.0 ports(SATA/SAS HDD/SSD)
- 1 x TPM 2.0 header

### Serverboard

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E300-9D</th>
<th>SYS-E300-8D</th>
<th>SYS-E200-8D</th>
</tr>
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<tbody>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X11SDV-4C-TLN2F</td>
<td>SUPER® X10SDV-TP8F</td>
<td>SUPER® X10SDV-6C-TLN4F</td>
</tr>
</tbody>
</table>

### Chipset

- **System On Chip**: 4 x DDR4 DIMM 512 GB up to 2400MHz LRDIMM or 256GB RDIMM, ECC/non-ECC
- **System Memory (Max.)**: Up to 128GB ECC RDIMM DDR4 2133MHz or 64GB ECC/non-ECC UDIMM in 4 sockets

### Expansion Slots

- **1 PCI-E 3.0x8(L/P)**
- **1 PCI-E 3.0 x8 AOC slot (LP), 1 M.2IM Key for SSD 2242/80/110, PCI-E/SATA3.0, 1 Mini-PCI-E/iw mSATA**
- **SoC controller for 6x SATA3.0**

### Connectivity

- **2x 10GBase-T LAN, 1 dedicated IPMI LAN, 2 USB 3.0**
- **2x GbE and 2 SFP+, 1 dedicated management port, 2x USB 3.0**

### VGA/Audio

- **VGA via BMC**
- **VGA via BMC**

### Management

- **IPMI 2.0**: Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® S, Watchdog
- **Drive Bays**: 1x 2.5” internal drive bay
- **Peripheral Bays**: N/A

### Power Supply

- **MCP-250-10128-0N (150W)**
- **DC power adapter**

### Cooling System

- **3x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM), none**
- **Passive CPU heat sink and 2x 40mm chassis fans**

### Form Factor

- **254 x 43 x 226mm (10” x 1.7” x 8.9”)**
- **Gross Weight: 6.1lbs (2.77kg)**
- **Net Weight: 3.45lbs (1.56kg)**

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
# X13 IoT/Embedded

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E100-13AD-C</th>
<th>SYS-E100-13AD-L</th>
<th>SYS-E100-13AD-E</th>
<th>SYS-E100-13AD-H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>12th Generation Intel® Celeron® Processor 7305E Processor; up to TDP 15W</td>
<td>12th Generation Intel® Core™ i3-1215UE Processor; up to TDP 15W</td>
<td>12th Generation Intel® Core™ i5-1245UE Processor; up to TDP 15W</td>
<td>12th Generation Intel® Core™ i7-1265UE Processor; up to TDP 15W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>- Industrial Automation, Retail, Smart Medical Expert Systems - Kiosk, Interactive information system - IoT Gateway for Smart Factory, Smart Building - Security and Surveillance - Digital Signage</td>
<td>- Industrial Automation, Retail, Smart Medical Expert Systems - Kiosk, Interactive information system - IoT Gateway for Smart Factory, Smart Building - Security and Surveillance - Digital Signage</td>
<td>- Industrial Automation, Retail, Smart Medical Expert Systems - Kiosk, Interactive information system - IoT Gateway for Smart Factory, Smart Building - Security and Surveillance - Digital Signage</td>
<td>- Industrial Automation, Retail, Smart Medical Expert Systems - Kiosk, Interactive information system - IoT Gateway for Smart Factory, Smart Building - Security and Surveillance - Digital Signage</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• 195 x 44mm x 159mm • 0°C to 50°C Operating Temperature • 1 x M.2 Key, 1 x M.2 Key with Nano SIM, 1 x M.2 E-Key • 4 COM (2 RS-232/422/485, 2 RS-232) • 1 x 8-bit GPIO via DB9, 4 USB2.0, 4 USB 3.2 Gen 2</td>
<td>• 195 x 44mm x 159mm • 0°C to 50°C Operating Temperature • 1 x M.2 Key, 1 x M.2 Key with Nano SIM, 1 x M.2 E-Key • 4 COM (2 RS-232/422/485, 2 RS-232) • 1 x 8-bit GPIO via DB9, 4 USB2.0, 4 USB 3.2 Gen 2</td>
<td>• 195 x 44mm x 159mm • 0°C to 50°C Operating Temperature • 1 x M.2 Key, 1 x M.2 Key with Nano SIM, 1 x M.2 E-Key • 4 COM (2 RS-232/422/485, 2 RS-232) • 1 x 8-bit GPIO via DB9, 4 USB2.0, 4 USB 3.2 Gen 2</td>
<td>• 195 x 44mm x 159mm • 0°C to 50°C Operating Temperature • 1 x M.2 Key, 1 x M.2 Key with Nano SIM, 1 x M.2 E-Key • 4 COM (2 RS-232/422/485, 2 RS-232) • 1 x 8-bit GPIO via DB9, 4 USB2.0, 4 USB 3.2 Gen 2</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X13SAN-L-WOHS</td>
<td>SUPER® X13SAN-S-WOHS</td>
<td>SUPER® X13SAN-L-WOHS</td>
<td>SUPER® X13SAN-S-WOHS</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-4800MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-4800MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-4800MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-4800MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1x 2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCI-E Gen3 x1)</td>
<td>1x 2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCI-E Gen3 x1)</td>
<td>1x 2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCI-E Gen3 x1)</td>
<td>1x 2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCI-E Gen3 x1)</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB 2.0, 1 G-bit GPoP via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB 2.0, 1 G-bit GPoP via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB 2.0, 1 G-bit GPoP via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB 2.0, 1 G-bit GPoP via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>Intel® UHD Graphics</td>
<td>Intel® UHD Graphics</td>
<td>Intel® Iris® Xe Graphics</td>
<td>Intel® Iris® Xe Graphics</td>
</tr>
<tr>
<td>Management</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
</tr>
<tr>
<td>Cooling System</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
<tr>
<td>Form Factor</td>
<td>195 x 44mm x 159mm (7.68&quot; x 1.73&quot; x 6.25&quot;)</td>
<td>195 x 44mm x 159mm (7.68&quot; x 1.73&quot; x 6.25&quot;)</td>
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</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
## X12 IoT/Embedded

### Tiger Lake

**Compact Fanless Server**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E100-12T-C</th>
<th>SYS-E100-12T-L</th>
<th>SYS-E100-12T-E</th>
<th>SYS-E100-12T-H</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Core™ Celeron 6305E</td>
<td>Intel® Core™ i5-11505GRE</td>
<td>Intel® Core™ i5-11505GRE</td>
<td>Intel® Core™ i7-11855GRE</td>
</tr>
<tr>
<td></td>
<td>Single Socket Single Socket FCGBA1449 supported</td>
<td>Single Socket Single Socket FCGBA1449 supported</td>
<td>Single Socket Single Socket FCGBA1449 supported</td>
<td>Single Socket Single Socket FCGBA1449 supported</td>
</tr>
<tr>
<td></td>
<td>TDP up to 15W</td>
<td>TDP up to 15W</td>
<td>TDP up to 15W</td>
<td>TDP up to 15W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• Smart Building, Security and Surveillance</td>
<td>• Smart Building, Security and Surveillance</td>
<td>• Smart Building, Security and Surveillance</td>
<td>• Smart Building, Security and Surveillance</td>
</tr>
<tr>
<td></td>
<td>• IoT Gateway for Smart Factory</td>
<td>• IoT Gateway for Smart Factory</td>
<td>• IoT Gateway for Smart Factory</td>
<td>• IoT Gateway for Smart Factory</td>
</tr>
<tr>
<td></td>
<td>• Digital Signage Kiosk, Interactive info system</td>
<td>• Digital Signage Kiosk, Interactive info system</td>
<td>• Digital Signage Kiosk, Interactive info system</td>
<td>• Digital Signage Kiosk, Interactive info system</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
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<tr>
<td><strong>Form Factor</strong></td>
<td>195 x 44mm x 159mm (7.68&quot; x 1.73&quot; x 6.25&quot;)</td>
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</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details.

---

**Serverboard**

**SUPER® X12STN-C-WOHS**

- **Expand Slots**:
  - 1x 2242/3042/2280 B-Key (USB3.0/2.0/SATA Gen3/PCI-E Gen3 x1) with nano SIM holder
  - 1x M.2 2230 E-Key (CNVi/PCI-E 3.0 x1/USB2)
  - 1x M.2 2242/2280 M-Key (PCI-E 4.0 x4), NVMe support

**Onboard Storage Controller**

- N/A

**Connectivity**

- Dual 2.5GbE LAN (0225-IT x2), 4 USB 3.2 Gen 2, 4 USB 2.0, 1 8-bit GPIO via DB9, 1 COM (RS-232/422/485, 2 RS-232)

**VGA/Audio**

- Intel® UHD Graphics

**Management**

- SuperDoctor® 5, Watchdog

**Drive Bays**

- N/A

**Peripheral Bays**

- N/A

**Power Supply**

- Lockable 12V DC 84W power adapter

**Cooling System**

- Fanless

---

**System Memory (Max.)**

- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots

**Chipset**

- System on Chip

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**Expansion Slots**

- 1x 2242/3042/2280 B-Key (USB3.0/2.0/SATA Gen3/PCI-E Gen3 x1) with nano SIM holder
- 1x M.2 2230 E-Key (CNVi/PCI-E 3.0 x1/USB2)
- 1x M.2 2242/2280 M-Key (PCI-E 4.0 x4), NVMe support

**Onboard Storage Controller**

- N/A

**Connectivity**

- Dual 2.5GbE LAN (0225-IT x2), 4 USB 3.2 Gen 2, 4 USB 2.0, 1 8-bit GPIO via DB9, 1 COM (RS-232/422/485, 2 RS-232)

**VGA/Audio**

- Intel® Iris® Xe Graphics

**Management**

- SuperDoctor® 5, Watchdog

**Drive Bays**

- N/A

**Peripheral Bays**

- N/A

**Power Supply**

- Lockable 12V DC 84W power adapter

**Cooling System**

- Fanless

**Form Factor**

- 195 x 44mm x 159mm (7.68" x 1.73" x 6.25")

---

**System Memory (Max.)**

- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots

**Chipset**

- System on Chip

---

**Expansion Slots**

- 1x 2242/3042/2280 B-Key (USB3.0/2.0/SATA Gen3/PCI-E Gen3 x1) with nano SIM holder
- 1x M.2 2230 E-Key (CNVi/PCI-E 3.0 x1/USB2)
- 1x M.2 2242/2280 M-Key (PCI-E 4.0 x4), NVMe support

**Onboard Storage Controller**

- N/A

**Connectivity**

- Dual 2.5GbE LAN (0225-IT x2), 4 USB 3.2 Gen 2, 4 USB 2.0, 1 8-bit GPIO via DB9, 1 COM (RS-232/422/485, 2 RS-232)

**VGA/Audio**

- Intel® Iris® Xe Graphics

**Management**

- SuperDoctor® 5, Watchdog

**Drive Bays**

- N/A

**Peripheral Bays**

- N/A

**Power Supply**

- Lockable 12V DC 84W power adapter

**Cooling System**

- Fanless

**Form Factor**

- 195 x 44mm x 159mm (7.68" x 1.73" x 6.25")
## IoT/Embedded

### IPS1 Fanless IoT Gateway/Server

- **MODEL:** SYS-E50-9AP
- **Processor Support:** Intel® Atom® Processor x5-E3940; up to TDP 9.5W
- **Key Applications:**
  - IoT Gateway
  - Commercial Appliance
  - Support Cloud-based Management Software
  - IPS1 with plastic chassis design for water/dust proof
- **Outstanding Features:**
  - IP51 with plastic chassis design for water/dust proof
  - Palm-size for space-limited environment
  - Built-in Antenna
- **Serverboard:** SUPER® A2SAP-H
- **Chipset:** System on Chip
- **System Memory (Max.):**
  - Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket
- **Expansion Slots:**
  - 1 Full size Mini-PCI-E; 1 Half size Mini-PCI-E; 1 M.2 B-Key 2242; 1 M.2 E-Key 2230
- **Onboard Storage Controller:**
  - 1 M.2 B-Key 2242 for SATA SSD, 1 SATA 3.0 for 7mm 2.5" SATA SSD
- **Connectivity:**
  - Dual LAN with Intel® I210-IT, 2 USB3.0, 2 USB2.0, 2 COM (RS-232/422/485), TPM2.0 onboard
- **VGA/Audio:**
  - 2 HDMI
- **Management:** SuperDoctor® 5, Watchdog
- **Drive Bays:**
  - 1 SATA 3.0 for 7mm 2.5" SATA SSD
- **Peripheral Bays:** N/A
- **Power Supply:** Lockable 12V DC 40W power adapter
- **Cooling System:** Fanless
- **Form Factor:** 148 x 44 x 118mm (5.82" x 1.72" x 4.64")

### Fanless IoT Gateway/Server, Cost Effective

- **MODEL:** SYS-E50-9AP-L
- **Processor Support:** Intel® Atom® Processor x5-E3940; up to TDP 9.5W
- **Key Applications:**
  - Cost Optimized IoT Gateway
  - Commercial Appliance
- **Outstanding Features:**
  - Palm-size for space-limited environment
  - Cost optimized
- **Serverboard:** SUPER® A2SAP-H
- **Chipset:** System on Chip
- **System Memory (Max.):**
  - Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket
- **Expansion Slots:**
  - 1 Half size Mini-PCI-E; 1 M.2 B-Key 2242
- **Onboard Storage Controller:**
  - 1 M.2 B-Key 2242 for SATA SSD
- **Connectivity:**
  - Dual LAN with Intel® I210-IT, 2 USB3.0, 2 USB2.0, 1 COM, TPM2.0 onboard
- **VGA/Audio:**
  - 1 HDMI
- **Management:** SuperDoctor® 5, Watchdog
- **Drive Bays:** N/A
- **Peripheral Bays:** N/A
- **Power Supply:** Lockable 12V DC 40W power adapter
- **Cooling System:** Fanless
- **Form Factor:** 148 x 44 x 118mm (5.82" x 1.72" x 4.64")

### Fanless IoT Gateway/Server

- **MODEL:** SYS-E50-9AP-N5
- **Processor Support:** Intel® Atom® Processor x5-E3940; up to TDP 9.5W
- **Key Applications:**
  - 5 LAN Fanless Embedded System
  - Entry Networking Appliance
  - IoT Gateway
- **Outstanding Features:**
  - 5 LAN Fanless Embedded System
  - TPM 2.0 onboard
  - Built-in Antenna
- **Serverboard:** SUPER® A2SAP-H
- **Chipset:** System on Chip
- **System Memory (Max.):**
  - Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket
- **Expansion Slots:**
  - 1 Half size Mini-PCI-E; 1 M.2 B-Key 2242; 1 M.2 E-Key 2230
- **Onboard Storage Controller:**
  - 1 M.2 B-Key 2242 for SATA SSD, 1 SATA 3.0 for 7mm 2.5" SATA SSD
- **Connectivity:**
  - 5 LAN with Intel® I210-IT, 2 USB3.0, 2 USB2.0, 1 COM, TPM2.0 onboard
- **VGA/Audio:**
  - 2 HDMI
- **Management:** SuperDoctor® 5, Watchdog
- **Drive Bays:**
  - 1 SATA 3.0 for 7mm 2.5" SATA SSD
- **Peripheral Bays:** N/A
- **Power Supply:** Lockable 12V DC 40W power adapter
- **Cooling System:** Fanless
- **Form Factor:** 148 x 44 x 118mm (5.82" x 1.72" x 4.64")

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*

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SG/Edge/IoT/Embedded Building Block Solutions - May 2023
## IoT/Embedded

**Supports Wireless communication**

**Compact Embedded System**

- **Ultra low power**
  - With 4GBe LAN ports
  - With 4GBe LAN ports

### MODEL

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-E102-9AP-LN4-E</th>
<th>SYS-E102-9AP-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom® X5-E3940; up to TDP 9.5W</td>
<td>Intel® Atom® X5-E3930; up to TDP 6.5W</td>
<td>Intel® Atom® X5-E3940, 4 Cores, TDP 9.5W</td>
<td>Intel® Celeron® J3455 , 4 Cores, TDP 10W</td>
</tr>
</tbody>
</table>
| Key Applications | • IoT Gateway  
  • Commercial Appliance | • Embedded Applications | • IoT Gateway  
  • Network Security Appliance  
  • SD-WAN  
  • Embedded Networking Applications | • IoT Gateway  
  • Network Security Appliance  
  • SD-WAN  
  • Embedded Networking Applications |
| Outstanding Features | • Built-in Antenna and Dual band Wireless/Bluetooth combo module  
  • WP51 with plastic chassis design for water/dust proof  
  • Cable-less design for easy maintenance  
  • Fanless design with palm-size dimension  
  • Support Cloud-based Management Software | • Building Block Solution for Embedded Applications  
  • Easy integration  
  • Compact size  
  • Ultra low power 6.5W | • Compact size with 1x 2.5” 7mm Storage Drive  
  • 4x Gigabit LAN Ports  
  • Support WIFI/BT, 3 LTE, and GPS by 4 M.2 slots  
  • SIM slot at rear I/O side for easily accessible by user | • Compact size with 1x 2.5” 7mm Storage Drive  
  • 4x Gigabit LAN Ports  
  • Support WIFI/BT, 3 LTE, and GPS by 4 M.2 slots  
  • SIM slot at rear I/O side for easily accessible by user |
| Serverboard | SUPER® A2SAN-LN4-C | SUPER® A2SAN-L | SUPER® A2SAN-LN4-E | SUPER® A2SAN-LN4-C |
| Chipset | System on Chip | System on Chip | System on Chip | System on Chip |
| System Memory (Max.) | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM slot | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM slot | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM slot |
| Expansion Slots | 1 Full size Mini-PCI-E; 1 Half size Mini-PCI-E; 1 M.2 B-Key 2242 | 1 Full Size Mini-PCI-E; 1 M.2 2280 B-Key | 3 2242/3042 M.2 B-Key w/ 3 x Nano-SIM slots for WWAN/LTE/GNSS card (1 with SATA3 support) | 1 3042 M.2 E-Key for WIFI/BT card |
| Onboard Storage Controller | 1 M.2 B-Key 2242 for SATA SSD, 1 SATA 3.0 for 7mm 2.5” SATA SSD | 1 M.2 B-Key 2280 for SATA SSD, 1 SATA 3.0 for 7mm 2.5” SATA SSD | 1 M.2 B-Key 2242 for M.2 SATA SSD, 1 SATA 3.0 for 7mm 2.5” SATA SSD | 1 M.2 B-Key 2242 for M.2 SATA SSD, 1 SATA 3.0 for 7mm 2.5” SATA SSD |
| Connectivity | Dual LAN with Intel® I210-IT, 2 USB3.0, TPM2.0 onboard | Dual LAN with Intel® I210-IT, 2 USB3.0, TPM2.0 onboard | 4 GbE LAN, 2 USB 3.2 Ports Gen1 type-A, 1 COM Port DB9 | 4 GbE LAN, 2 USB 3.2 Ports Gen1 type-A, 1 COM Port DB9 |
| VGA/Audio | 2 HDMI | 1 VGA 1 HDMI | 1 HDMI | 1 HDMI |
| Management | SuperDoctor® 5, Watchdog | SuperDoctor® 5; Watchdog | SuperDoctor® 5; Watchdog | SuperDoctor® 5; Watchdog |
| Drive Bays | 1 SATA 3.0 for 7mm 2.5” SATA SSD | 1 SATA 3.0 for 7mm 2.5” SATA SSD | 1 SATA 3.0 for 7mm 2.5” SATA SSD | 1 SATA 3.0 for 7mm 2.5” SATA SSD |
| Peripheral Bays | N/A | N/A | N/A | N/A |
| Power Supply | Lockable 12V DC 40W power adapter | Lockable 12V DC 40W power adapter | 60W Lockable Power Adapter | 60W Lockable Power Adapter |
| Cooling System | Fanless | Passive CPU heat sink and 1x 40mm chassis fans | Passive CPU heat sink and 1x 40mm chassis fans | Passive CPU heat sink and 1x 40mm chassis fans |
| Form Factor | 148 x 44 x 118mm (5.82” x 1.72” x 4.64”) | 1U Box; Enclosure: 190 x 44 x 120mm (7.48” x 1.72” x 4.72”) Package: 241 x 140 x 203mm (9.5” x 5.5” x 8”) | 1U Box; Enclosure: 190 x 44 x 120mm (7.48” x 1.72” x 4.72”) Package: 241 x 140 x 203mm (9.5” x 5.5” x 8”) | 1U Box; Enclosure: 190 x 44 x 120mm (7.48” x 1.72” x 4.72”) Package: 241 x 140 x 203mm (9.5” x 5.5” x 8”) |

* Please check with your Supermicro sales representative and website for compatibility and configuration details
** Only available for NA and EU region. For other regions, please contact your sale representatives

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60 **SG/Edge/IoT/Embedded Building Block Solutions - May 2023**

---
### Extended Temperature Fanless IoT Gateway/Server

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E100-9AP</th>
<th>SYS-E100-9APP</th>
<th>SYS-E100-9AP-IA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Atom® X5-E3940; up to TDP 9.5W</td>
<td>Intel® Pentium™ N4200; up to TDP 6W</td>
<td>Intel® Atom® X5-E3940; up to TDP 9.5W</td>
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</table>
| **Key Applications** | - IoT Gateway for Smart Factory, Smart Building, Smart Home  
  - Kiosk, Interactive information system  
  - Environmental Monitor  
  - Industrial Application | - IoT Gateway for Smart Factory, Smart Building, Smart Home  
  - Kiosk, Interactive information system  
  - Environmental Monitor | - IoT Gateway for Smart Factory, Smart Building, Smart Home  
  - Kiosk, Interactive information system  
  - Environmental Monitor  
  - Industrial Application |
| **Outstanding Features** | - Low power Apollo Lake Atom® E3940, 4C  
  - Fanless Compact Ruggedized Box PC  
  - Supports wide-temp: -20–60°C  
  - TPM2.0 onboard  
  - Operational vibration: 5G(m), IEC 60068-2-64  
  - Operational Shock: 30G, IEC 60068-2-27 | - Supports temp: 0–60°C  
  - TPM2.0 onboard  
  - Operational vibration: 5G(m), IEC 60068-2-64  
  - Operational Shock: 30G, IEC 60068-2-27 | - Low power Apollo Lake Atom® E3940, 4C  
  - Din-rail Fanless Box PC  
  - Din-rail Fanless Ruggedized Box PC  
  - 1 Flexible I/O Slot (via MiniPCI-E)  
  - 9-36VDC wide range power input  
  - Supports wide-temp: -20–60°C  
  - Operational vibration: 5G(m), IEC 60068-2-64  
  - Operational Shock: 30G, IEC 60068-2-27 |
| **Serverboard** | SUPER® A2SAN-E-WOHS | SUPER® X11SAN-WOHS | SUPER® A2SAN-E-WOHS |
| **Chipset** | System on Chip | System on Chip | System on Chip |
| **System Memory (Max.)** | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket |
| **Expansion Slots** | 1 Full size Mini-PCI-E; 1 M.2 2280 B-Key | 1 Full size Mini-PCI-E; 1 M.2 2280 B-Key | 1 Full size Mini-PCI-E; 1 M.2 2280 B-Key |
| **Onboard Storage Controller** | 1 M.2 2280 B-Key for SATA SSD | 1 M.2 2280 B-Key for SATA SSD | 1 M.2 2280 B-Key for SATA SSD |
| **Connectivity** | Dual LAN with Intel® i210-IT, 2 USB3.0, 4 USB2.0, 4 COM (2 RS-232/422/485, 2 RS-232), 1 8-bit configurable GPIO via DB9, TPM2.0 onboard | Dual LAN with Intel® i210-IT, 1 USB3.1, 2 USB3.0, 4 USB2.0, 4 COM (2 RS-232/422/485, 2 RS-232), 1 8-bit configurable GPIO via DB9, TPM2.0 onboard | Dual LAN with Intel® i210-IT, 2 USB3.0, 4 USB2.0, 4 COM (2 RS-232/422/485, 2 RS-232), 1 8-bit configurable GPIO via DB9, TPM2.0 onboard |
| **VGA/Audio** | 1 VGA 1 HDMI | 1 VGA 1 HDMI | 1 VGA 1 HDMI |
| **Management** | SuperDoctor* 5, Watchdog | SuperDoctor* 5, Watchdog | SuperDoctor* 5, Watchdog |
| **Drive Bays** | N/A | N/A | 1 SATA 3.0 for 2.5" SATA SSD |
| **Peripheral Bays** | N/A | N/A | N/A |
| **Power Supply** | Lockable 12V DC 40W power adapter | Lockable 12V DC 40W power adapter | 12V DC 60W power adapter, Terminal Block |
| **Cooling System** | Fanless | Fanless | Fanless |
| **Form Factor** | 195 x 44 x 151mm (7.68” x 1.73” x 5.94”) | 195 x 44 x 151mm (7.68” x 1.73” x 5.94”) | 194 x 80 x 126mm (7.64” x 3.15” x 4.96") |

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
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<th>MODEL</th>
<th>SYS-E100-9W-H</th>
<th>SYS-E100-9W-E</th>
<th>SYS-E100-9W-L</th>
<th>SYS-E100-9W-C</th>
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<td>Processor Support</td>
<td>8th Generation Intel® Core™ i7-8656U Processor; up to TDP 15W</td>
<td>8th Generation Intel® Core™ i5-8455U Processor; up to TDP 15W</td>
<td>8th Generation Intel® Core™ i3-8145U Processor; up to TDP 15W</td>
<td>Intel® Celeron® Processor 4305U Processor; up to TDP 15W</td>
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<tr>
<td>Key Applications</td>
<td>- Industrial Automation, Retail, Smart Medical Expert Systems - Kiosk, Interactive information system - Digital Signage - 1 M.2 M-Key, 1 M.2 E-Key with Nano SIM, 1 M.2 E-Key - TPM2.0 onboard - +12-24VDC wide range power input - 0°C to 50°C Operating Temperature - Operational vibration: 5G, IEC 60068-2-64 - Operational Shock: 30G, IEC 60068-2-27</td>
<td>- Industrial Automation, Retail, Smart Medical Expert Systems - Kiosk, Interactive information system - Digital Signage - 1 M.2 M-Key, 1 M.2 E-Key with Nano SIM, 1 M.2 E-Key - TPM2.0 onboard - +12-24VDC wide range power input - 0°C to 50°C Operating Temperature - Operational vibration: 5G, IEC 60068-2-64 - Operational Shock: 30G, IEC 60068-2-27</td>
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<tr>
<td>Outstanding Features</td>
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<td>Serverboard</td>
<td>SUPER® X115SWN-H-WOHS</td>
<td>SUPER® X115WN-E-WOHS</td>
<td>SUPER® X115WN-C-WOHS</td>
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<td>Chipset</td>
<td>System on Chip chipset</td>
<td>System on Chip chipset</td>
<td>System on Chip chipset</td>
<td>System on Chip chipset</td>
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<tr>
<td>System Memory (Max.)</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
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<tr>
<td>Expansion Slots</td>
<td>M.2 2242/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
<td>M.2 2242/2280 E-Key (CNVI-PCH-E 4.0 x1, USB2)</td>
<td>M.2 2242/2280 M-Key (PCI-E 3.0 x4, SATA Gen3 x 1), NVMe support</td>
<td>M.2 2242/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
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<td>Onboard Storage Controller</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<td>Connectivity</td>
<td>2 GbE LAN (2101T+1219LM), 4 USB 3.2 Gen 2, 4 USB 2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>2 GbE LAN (2101T+1219LM), 4 USB 3.2 Gen 2, 4 USB 2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
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<tr>
<td>Management</td>
<td>SuperDoctor® 5, Watchdog, AMT, vPro</td>
<td>SuperDoctor® 5, Watchdog, AMT, vPro</td>
<td>SuperDoctor® 5, Watchdog, AMT, vPro</td>
<td>SuperDoctor® 5, Watchdog</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<td>Peripheral Bays</td>
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<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
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<td>Cooling System</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
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<tr>
<td>Form Factor</td>
<td>195 x 44 x 159mm (7.68” x 1.73” x 6.25”)</td>
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### Model Comparison

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<th>SYS-E100-9W-IA-E</th>
<th>SYS-E100-9W-IA-L</th>
<th>SYS-E100-9W-IA-C</th>
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<tr>
<td>Processor Support</td>
<td>8th Generation Intel® Core™ i7-8665UE Processor; up to 15W TDP</td>
<td>8th Generation Intel® Core™ i5-8365UE Processor; up to 15W TDP</td>
<td>8th Generation Intel® Core™ i3-8145UE Processor; up to 15W TDP</td>
<td>8th Generation Intel® Celeron® 4305U Processor; up to 15W TDP</td>
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<td>Key Applications</td>
<td>Industrial Automation &amp; Control • Machine Automation</td>
<td>Industrial Automation &amp; Control • Machine Automation</td>
<td>Industrial Automation &amp; Control • Machine Automation</td>
<td>Industrial Automation &amp; Control • Machine Automation</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>4 USB 3.2 Gen2 • 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key • +12-24VDC wide range power input • 0°C to 50°C Operating Temperature • TPM2.0 on board</td>
<td>4 USB 3.2 Gen2 • 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key • +12-24VDC wide range power input • 0°C to 50°C Operating Temperature • TPM2.0 on board</td>
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<tr>
<td>Expansion Slots</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
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<tr>
<td>Onboard Storage Controller</td>
<td>System on Chip</td>
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<tr>
<td>System Memory (Max.)</td>
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<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots</td>
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<tr>
<td>Connectivty</td>
<td>2 GbE LAN (I210IT+I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
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<td>Management</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog</td>
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<td>SuperDoctor® 5, Watchdog</td>
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<tr>
<td>Drive Bays</td>
<td>1 SATA SSD</td>
<td>1 SATA SSD</td>
<td>1 SATA SSD</td>
<td>1 SATA SSD</td>
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<td>Peripheral Bays</td>
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<td>N/A</td>
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<tr>
<td>Power Supply</td>
<td>12V DC 60W power adapter with Terminal Block</td>
<td>12V DC 60W power adapter with Terminal Block</td>
<td>12V DC 60W power adapter with Terminal Block</td>
<td>12V DC 60W power adapter with Terminal Block</td>
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<td>Cooling System</td>
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<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
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<td>Form Factor</td>
<td>194 x 115 x 126mm (7.64&quot; x 4.52&quot; x 4.96&quot;)</td>
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<tr>
<td>Processor Support</td>
<td>8th Generation Intel® Core™ i7-8665UE Processor, TDP 15W</td>
<td>8th Generation Intel® Core™ i5-8580U Processor, TDP 15W</td>
<td>8th Generation Intel® Core™ i5-8510U Processor, TDP 15W</td>
<td>Intel® Celeron® Processor 4305U Processor, TDP 15W</td>
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<td>Key Applications</td>
<td>• Industrial Automation, Retail, Smart Medical Expert Systems</td>
<td>• Industrial Automation, Retail, Smart Medical Expert Systems</td>
<td>• Industrial Automation, Retail, Smart Medical Expert Systems</td>
<td>• Industrial Automation, Retail, Smart Medical Expert Systems</td>
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<td>• Kiosk, Interactive information system</td>
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<td>• Retail, Smart Medical Expert Systems</td>
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<td>• Passive CPU Heat Sink and 1x 40mm Chassis Fan</td>
<td>• Passive CPU Heat Sink and 1x 40mm Chassis Fan</td>
<td>• Retail, Smart Medical Expert Systems</td>
<td>• Retail, Smart Medical Expert Systems</td>
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<td>• 1 HDMI and 1 Display Port</td>
<td>• 1 HDMI and 1 Display Port</td>
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<td>• 4 USB 3.2 Gen2</td>
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<td>• 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key</td>
<td>• 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key</td>
<td>• 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key</td>
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<td>• -40°C to 50°C Operating Temperature</td>
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<td>System on Chip chipset</td>
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<td>System on Chip chipset</td>
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<td>System Memory (Max.)</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
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<td>Expansion Slots</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
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<td>M.2 2230 E-Key (CNVI/PCI-E 3.0 x1/ USB2)</td>
<td>M.2 2230 E-Key (CNVI/PCI-E 3.0 x1/ USB2)</td>
<td>M.2 2230 E-Key (CNVI/PCI-E 3.0 x1/ USB2)</td>
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<td>M.2 2242/2280 M-Key (PCI-E 3.0 x4, SATA Gen3 x 1), NVMe support</td>
<td>M.2 2242/2280 M-Key (PCI-E 3.0 x4, SATA Gen3 x 1), NVMe support</td>
<td>M.2 2242/2280 M-Key (PCI-E 3.0 x4, SATA Gen3 x 1), NVMe support</td>
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<tr>
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<td>N/A</td>
<td>N/A</td>
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<td>SuperDoctor® 5, Watchdog, AMT, vPro</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
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<td>1 SATA 3.0 for 2.5” 7mm SATA HDD</td>
<td>1 SATA 3.0 for 2.5” 7mm SATA HDD</td>
<td>1 SATA 3.0 for 2.5” 7mm SATA HDD</td>
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<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
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<td>Power Supply</td>
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<td>Cooling System</td>
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<th>SYS-5029A-2TN4</th>
<th>SYS-5029AP-TN2</th>
<th>SYS-5029S-TN2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® 8th/9th Generation Core™ i9/Core™ i7/Core™ i5/Core™ i3/ Pentium™/Celeron™ series Processor. Single Socket LGA-1151 (Socket H4) supported, CPU TDP support up to 65W TDP</td>
<td>Intel® Atom® C3338 Denvertor Processor, SoC 2 Core, 9W, 1.5 GHz</td>
<td>Intel® Atom® E3940 Apollo Lake Processor, SoC 4 Cores, 9.5W, 1.6 GHz</td>
<td>Intel® 6th/7th Generation Core™ i3,i5,i7 series, Pentium®, Celeron®, CPU TDP support up to 65W TDP</td>
</tr>
</tbody>
</table>
| Key Applications  | • Surveillance Security Server  
• Compact Storage Appliance  
• Video processing and streaming  
• Small Medium Business Edge Server | • 7 Years Life Cycle  
• Compact Cloud Server  
• Edge Computing Device | • Database Processing & Storage  
• High Performance NAS Servers  
• Medical Applications  
• Security Appliance and Video Surveillance  
• Web Server for Small and Medium Business  
• Indoor Kiosk | • Database Processing & Storage  
• Web Server for Small and Medium Business  
• Medical Applications  
• Security Appliance and Video Surveillance  
• Indoor Kiosk |
| Outstanding Features | • Up to 32GB Non ECC SO-DIMM DDR4 2666 MHz  
• TPM chip onboard with jumper disable  
• 4 x USB 3.1 (2 type A & 2 type C in rear)  
• M.2 Key: M-Key, E-Key for WiFi (or CNVi) card | • Quad Gigabit Ethernet LAN  
• Up to 4x hot-swap 3.5" SATA3 drives with Virtual Media/KVM over LAN  
• 7 year life cycle | • Up to 4 Hot-Swap 3.5" SATA3 HDD, 1 internal 2.5" fixed HDD and 1 M.2 (M key 2242/80 PCI-E 2.0x2)  
• Embedded long-life  
• 2x Gigabit LAN ports  
• Quiet Operation | • DP, HDMI and DVI-I: 3 independent displays  
• Remote management via vPro technology  
• 2x Gigabit LAN ports  
• Quiet Operation |
| Serverboard       | SUPER® X11SCV-Q                 | SUPER® A2SDi-2C-HLN4            | SUPER® A2SAV                     | SUPER® X11SSV-Q                 |
| Chipset           | System on Chip                 | System on Chip                  | System on Chip                  | Intel® Q170                     |
| System Memory (Max.) | Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2666MHz, in 2 DIMM slots | Up to 128GB RDIMM or 32GB ECC/ NON ECC UDIMM, DDR4-1866MHz in 2 DIMM slots | 8GB Unbuffered non-ECC DDR3-1866MHz SO-DIMM in 1 DIMM slot | 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots |
| Expansion Slots   | 1 PCI-E 3.0 x16 (Low Profile); 1 M.2 PCI-E 3.0x4 M Key 2242/2280  
1 PCI-E 3.0 x2 (in x4 open ended slot) | 1 PCI-E 2.0 x2 in x8 slot, 1 M.2 (M key 2242/80 PCI-E 2.0x2), 1 Mini-PIC-E with mSATA support | 1 PCI-E 3.0 x16 slot 1 M.2 (M key 2242/80 PCI-E 3.0x4) 1 x Mini-PIC-E with mSATA support | 1 PCI-E 3.0 x16 slot 1 M.2 (M key 2242/80 PCI-E 3.0x4) 1 x Mini-PIC-E with mSATA support |
| Onboard Storage Controller | SoC controller for 6 SATA3 (6 Gbps) ports | Marvel 88SE9230 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10; SoC controller for 2 SATA3 (6 Gbps) ports | Intel® Q170 Express controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10; | Intel® Q170 Express controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10; |
| Connectivity      | 4 x USB 3.1 (2 type A & 2 type C in rear)  
4 x 1GBe LAN, 1 dedicated IPMI LAN, 2 USB2.0 | 2x 1GbE, 2 USB3.0, 3 USB2.0(2 front, 1 Type A), 1 Serial Port (RS45)  
AIC 8885 HD Audio | 2x 1GbE, 4 USB3.0, 3 USB2.0 (2 front, 1 Type A),2 RS232 ALC 8885 HD Audio | 2x 1GbE, 4 USB3.0, 3 USB2.0 (2 front, 1 Type A),2 RS232 ALC 8885 HD Audio |
| VGA/Audio         | VGA via BMC                     | 1 HDMI, 1 DP, 1 VGA or eDP, Intel® HD Graphic 3 independent displays | 1 HDMI, 1 DP (Display Port), 1 DVI - D, 1 Intel® HD Graphic 3 Independent Displays | 1 HDMI, 1 DP (Display Port), 1 DVI - D, 1 Intel® HD Graphic 3 Independent Displays |
| Management        | vPro and AMT                    | vPro and AMT                    | vPro and AMT                    | vPro and AMT                    |
| Drive Bays        | 4x 3.5" SATA Hot Swap drive bay and 2 x2.5" internal drive bay | 4x 3.5" hot-swap SAS/SATA 2x 2.5" fixed drive bay | 4x 3.5" hot-swap SAS/SATA 1x 2.5" fixed drive bay | 4x 3.5" hot-swap SAS/SATA 1x 2.5" fixed drive bay |
| Peripheral Bays   | N/A  
1x slim DVD-ROM drive bay (shared with 1 x 2.5" fixed drive bay) | 1x slim DVD-ROM drive bay (shared with 1 x 2.5" fixed drive bay) | 1x slim DVD-ROM drive bay (shared with 1 x 2.5" fixed drive bay) | 1x slim DVD-ROM drive bay (shared with 1 x 2.5" fixed drive bay) |
| Power Supply      | PWS-251-1H 250W Flex ATX Multi- 
output Bronze Power Supply | PWS-251-1H 250W Flex ATX Multi- 
output Bronze Power Supply | PWS-251-1H 250W Flex ATX Multi- 
output Bronze Power Supply | PWS-251-1H 250W Flex ATX Multi- 
output Bronze Power Supply |
| Cooling System    | 1x Active CPU cooler  
1x 12cm rear exhaust fan; SNK-P0046A4 - optional | 1x 12cm rear exhaust fan; SNK-P0046A4 - optional | 1x 12cm rear exhaust fan; SNK-P0046A4 - optional | 1x 12cm rear exhaust fan; SNK-P0046A4 - optional |
| Form Factor       | 210 x 240 x 279mm (8.27" x 9.45" x 11")  
210 x 240 x 279mm (8.27" x 9.45" x 11")  | 210 x 240 x 279mm (8.27" x 9.45" x 11")  
210 x 240 x 279mm (8.27" x 9.45" x 11")  | 210 x 240 x 279mm (8.27" x 9.45" x 11")  
210 x 240 x 279mm (8.27" x 9.45" x 11") | 210 x 240 x 279mm (8.27" x 9.45" x 11")  
210 x 240 x 279mm (8.27" x 9.45" x 11")  |

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
## MODEL

<table>
<thead>
<tr>
<th>Processor Support</th>
<th>Key Applications</th>
<th>Outstanding Features</th>
</tr>
</thead>
</table>
| Intel® Atom® E3940 Apollo Lake Processor, SoC 4 Cores, 9.5W, 1.6GHz | - Digital Signage  
- Security Appliance and Video Surveillance  
- Indoor Kiosk | - M.2 2242, 2280, 22110 with M-key (full size) mSATA support  
- Dual display for HDMI, Display Port, VGA  
+ 2x GbE LAN |
| Intel® Pentium® N3700 SoC, 4 Cores, 6W, 1.6GHz | - Embedded Applications  
- Thin Client  
- Digital Signage  
- Indoor Kiosk  
- Networking Appliance | - Cost Effective Embedded Mini ITX System  
- Low Power Consumption  
- 1U Compact Mini ITX BOX System  
- Low power SoC Intel® Pentium® N3700 (10W, 4C)  
- Dual display for HDMI, Display Port, VGA  
- Intel® I210AT Quad GbE LAN  
+ 2 x USB 3.0 ports, 2 x USB 2.0 (Rear I/O)  
+ COM port (Rear I/O) |
| Intel® Celeron™ J1900 SoC, 4 Cores | - Embedded Applications  
- Thin Client  
- Digital Signage  
- Indoor Kiosk | - Cost Effective Embedded Mini ITX System  
- 1U Compact Mini ITX BOX System  
- Low power SoC Intel® Celeron™ J1900 (10W, 4C)  
- Dual display for HDMI, Display Port, VGA  
- Intel® I210AT dual port GbE LAN |

## Serverboard

<table>
<thead>
<tr>
<th>Serverboard</th>
<th>Chipset</th>
<th>System Memory (Max.)</th>
<th>Expansion Slots</th>
<th>Onboard Storage Controller</th>
<th>Connectivity</th>
<th>VGA/Audio</th>
<th>Management</th>
<th>Drive Bays</th>
<th>Peripheral Bays</th>
<th>Power Supply</th>
<th>Cooling System</th>
<th>Form Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYS-E200-9AP</td>
<td>SUPER® A2SAV-L</td>
<td>System on Chip</td>
<td>1 M.2 PCI-E x2, M Key 2242/2280</td>
<td>N/A</td>
<td>2x 1GbE LAN, 2 USB3.0, 2 USB2.0, 2 Serial Port (RJ45 and DB9)</td>
<td>1 Display Port, 1 HDMI, 1 VGA (Two Independent Displays)</td>
<td>SuperDoctor* 5; Watchdog: IPMI 2.0 with KVM support</td>
<td>N/A</td>
<td>N/A</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>1x 4cm fan</td>
<td></td>
</tr>
<tr>
<td>SYS-E200-8B</td>
<td>SUPER® X11SBA-LN4F</td>
<td>System on Chip</td>
<td>1 mini-PCI-E slot with mSATA support</td>
<td>N/A</td>
<td>4x 1GbE, 1 dedicate IPMI LAN, 2 USB3.0, 2 USB2.0Realtek ALC888S HD Audio</td>
<td>1 Display Port, 1 HDMI, 1 VGA (Two Independent Displays)</td>
<td>SuperDoctor* 5, Watch Dog</td>
<td>1x 2.5&quot; internal HDD support</td>
<td>N/A</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>1x 4cm high performance PWM fan, support up to 2 chassis fans</td>
<td></td>
</tr>
<tr>
<td>SYS-E200-9B</td>
<td>SUPER® X10SBA</td>
<td>System on Chip</td>
<td>1 mini-PCI-E slot with mSATA support</td>
<td>N/A</td>
<td>2x 1GbE LAN, 1 USB3.0, 1 USB2.0Realtek ALC888S-V2D HD Audio</td>
<td>1 Display Port, 1 HDMI, 1 VGA (Two Independent Displays)</td>
<td>N/A</td>
<td>N/A</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>1x 4cm high performance PWM fan, support up to 2 chassis fans</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
### IoT/Embedded

![Image 1](image1.png)

**Intel® Atom® C2758, 8-Cores, 7 LAN with 3-pair LAN bypass**

**Intel® Xeon® D-1537 SoC, 8 Core**

**Intel® Pentium® D1508 SoC, Dual Core**

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### MODEL

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5018A-TN7B</th>
<th>SYS-5018D-MHR7N4P</th>
<th>SYS-5018D-LN4T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom® C2758 Processor, SoC 8-Core, 20W, 2.4GHz</td>
<td>Intel® Xeon® Processor D-1537, SoC 8 Core, 35W, 1.7-2.3GHz</td>
<td>Intel® Pentium® Processor D1508, FCBGA1667 supported, CPU TDP support 25W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Network Security Appliance • FireWall Applications • Virtualization Server • Embedded Applications</td>
<td>• Hyper-Converged Appliance • Enterprise Server • Edge Computing Server • Private Cloud Server • Virtualization Server</td>
<td>• Compact Network Appliance • FireWall Applications • Software Defined WAN</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• 7xGbE LAN with 3-pair bypass • Embedded long-life</td>
<td>• 4 Hot Swap SATA3/5AS2 Drive Bays • Dual SFP+ and Dual GbE • Low Power Xeon® D SoC 8 Core with Dual 10GbE and Dual GbE • Remote management via dedicated IPMI BMC • 400W high-efficiency redundant power supply • 7 year life cycle</td>
<td>• Dual 10GbE SFP+ and Dual GbE • Short depth (less than 10 depth) • Intel® Xeon® processor D-1508, Dual-Core, 25W • Up to 128Gb ECC RDIMM DDR4 2133MHz or 64Gb ECC/non-ECC UDIMM in 4 sockets • 4 x 2.5&quot; SATA3 HDD, and 1 M.2 (M key 2242/80/110 PCIe 3.0x4)</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® A1SRM-LN7F-2758</td>
<td>SUPER® X10SVD-7TP4F</td>
<td>SUPER® X10SVD-2C-TP4F</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>64GB Unbuffered ECC/non-ECC, DDR3-1600MHz in 4 DIMM slots</td>
<td>Up to 128GB Registered ECC RDIMM, DDR4-2133MHz</td>
<td>Up to 128GB Registered ECC RDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 2.0 x4 (in x8) slot</td>
<td>PCIe 3.0 x8 full height expansion slot; M.2 PCI-E 3.0x4, M Key 2242/2280/22110, Mini-PCI-E with mSATA support</td>
<td>1 PCI-E 3.0 x8; M.2 PCI-E 3.0x4, M Key 2242/2280/22110, Mini-PCI-E with mSATA support</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>SoC controller for 4 SATA2 (3 Gbps) ports; 2 SATA3 ports(6 Gbps)</td>
<td>4 SATA3 support RAID 0,1,5,10(RSTe) or 4 SAS2 (No RAID support and require one optional cable, CBL-SAST-011)</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10 RSTe</td>
</tr>
<tr>
<td>Connectivity</td>
<td>7x 1GbE (3-pair bypass), 1 dedicated IPMI LAN (share with one LAN), 4x USB2.0, 1 Serial Port (RJ45)</td>
<td>2x 1GbE LAN, 2x 10G SFP+, 1 dedicate IPMI LAN, 2 USB3.0, 1 USB2.0 Type A</td>
<td>2x 1GbE LAN, 2x 10G SFP+, 1 dedicate IPMI LAN, 2 USB3.0</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
</tr>
<tr>
<td>Management</td>
<td>IPMI2.0; NMI; SUM; SuperDoctor® 5; Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>1x 3.5&quot; fixed drive bay or 4x2.5&quot; drive bay with optional bracket</td>
<td>4x 3.5&quot; hot-swap SATA3/5AS2(require one optional cable, CBL-SAST-011)</td>
<td>1x 3.5&quot; fixed drive bay or up to 4x 2.5&quot; fixed drive bay</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>1 slim DVD-ROM drive bay</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>200W Multi-output 80Plus Gold PWS</td>
<td>Redundant 400W Platinum Level power supplies, PWS-407P-1R</td>
<td>200W Low-Noise AC-DC power supply with PFC</td>
</tr>
<tr>
<td>Cooling System</td>
<td>2x 4cm counter-rotating PWM fan, support up to 3 system fans</td>
<td>3x 40x28mm PWM fan for CPU and Memories; 1x 40x28mm PWM fan for AOC cooling</td>
<td>1x 40x28mm 13K RPM 4-PIN PWM FAN</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Short Depth 1U Rack Mount; Enclosure: 437 x 43 x 287mm (17.2&quot; x 1.7&quot; x 11.3&quot;) Package: 645 x 155 x 503mm (25.4&quot; x 6.1&quot; x 19.8&quot;) Gross Weight: 12.5lbs (5.69kg) Net Weight: 8.45lbs (3.83kg)</td>
<td>1U Rackmount; Enclosure: 437 x 43 x 503mm (17.2&quot; x 1.7 x 19.8&quot;) Package: 610 x 216 x 749mm (24&quot; x 8.5&quot; x 29.5&quot;) Gross Weight: 33lbs (14.97kg) Net Weight: 20lbs (9.07kg)</td>
<td>1U Short Depth Rackmount; Enclosure: 437 x 43 x 249mm (17.2&quot; x 1.7&quot; x 9.8&quot;) Package: 655 x 155 x 465mm (25.8&quot; x 6.1&quot; x 18.3&quot;) Gross Weight: 12lbs (5.44kg) Net Weight: 8lbs (3.63kg)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5018D-FN8T</th>
<th>SYS-1018D-FRN8T</th>
<th>SYS-5018D-FN4T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Xeon® Processor D-1518, SoC 4 Core, 35W, 2.2 GHz</td>
<td>Intel® Xeon® Processor D-1587 SoC 16 Core, 65W 1.7-2.3GHz</td>
<td>Intel® Xeon® Processor D-1541. -&lt;BR&gt;Socket FCBGA1667 supported, CPU TDP support 45W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Networking Appliance &lt;BR&gt;• Network Security Appliance &lt;BR&gt;• FireWall Applications &lt;BR&gt;• Embedded Applications &lt;BR&gt;• Virtualization Server &lt;BR&gt;• Dual SFP+ and 6x GbE &lt;BR&gt;• Short depth (less than 10 inch) &lt;BR&gt;• Low Power Xeon™ D SoC 4 Core &lt;BR&gt;• Best Performance per Watt &lt;BR&gt;• 7 year life cycle &lt;BR&gt;• IPMI 2.0 management with dedicated LAN</td>
<td>• Network Security Appliance &lt;BR&gt;• FireWall Applications &lt;BR&gt;• Virtualization &lt;BR&gt;• SD-WAN &lt;BR&gt;• vCP</td>
<td>• Networking Appliance &lt;BR&gt;• Edge Computing Device &lt;BR&gt;• Security Gateway &lt;BR&gt;• Compact Cloud Server</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>400W Redundant Platinum PSU &lt;BR&gt;1x Low Profile PCI-E 3.0 x 8 and 1x M.2 PCI-E 3.0 x 4 &lt;BR&gt;MiniPCI-E with mSata &lt;BR&gt;2x 2.5&quot;HDD &lt;BR&gt;8 LAN w/2x10G SPF+ and 6x1GbE LAN &lt;BR&gt;128G DDR4 RAM</td>
<td>2x Gigabit + 2x 10G LAN ports &lt;BR&gt;Less than 10&quot; depth &lt;BR&gt;Up to 2x 3.5&quot; or 4x 2.5&quot; SATA3 device &lt;BR&gt;1x PCI-E x16 Gen 3 add-on card slot &lt;BR&gt;Dedicated management port</td>
<td></td>
</tr>
</tbody>
</table>

**Serverboard**<br>MODEL SYS-5018D-FN8T SYS-1018D-FRN8T SYS-5018D-FN4T<br>Processor Support Intel® Xeon® Processor D-1518, SoC 4 Core, 35W, 2.2 GHz Intel® Xeon® Processor D-1587 SoC 16 Core, 65W 1.7-2.3GHz Intel® Xeon® Processor D-1541. -<BR>Socket FCBGA1667 supported, CPU TDP support 45W<br>**Chipset**<br>System on Chip System on Chip Intel® Xeon® D-1540, SoC<br>**System Memory (Max.)**<br>Up to 128GB ECC RDIMM DDR4 2133MHz or 64GB ECC/non-ECC UDIMM in 4 sockets 128 GB of DDR4 ECC RDIMM 2133MHz or 64 GB of DDR4 ECC UDIMM 2133MHz Up to 128GB Registered ECC RDIMM, DDR4-2133MHz<br>**Expansion Slots**<br>1 PCI-E 3.0 x8; M.2 PCI-E 3.0x4, M Key 2242/2280/22110, Mini-PCI-E with mSATA support 1 PCI-E 3.0 x8; M.2 PCI-E 3.0x4, M Key 2242/2280/22110, Mini-PCI-E with mSATA support 1 PCI Express 3.0 x16 add-on card slot<br>**Onboard Storage Controller**<br>SoC controller for 4x SATA3.0 SoC controller for 2 SATA3 (6 Gbps) ports; RAID 0,1,5,10SSTe; 2116 SW controller for 16 SATA3/ SAS2 (6 Gbps) ports Intel® SoC-based 2x 3.5" or 4x 2.5" SATA3 bays, SATA DOM support<br>**Connectivity**<br>6x 1GbE LAN, 2x 10G SFP+, 1 dedicate IPMI LAN, 2 USB3.0 6x 1GbE LAN, 2x 10G SFP+, 1 dedicate IPMI LAN, 2 USB3.0 2x GbE + 2x 10G LAN ports 1x dedicated management port 2x USB 3.0 (rear)2x USB 3.0, 4x USB 2.0 ports (via header), 1x M.2 slot (M key for SSD, 2242/2280, PCI-E3.0 x4)<br>**VGA/Audio**<br>VGA via BMC VGA via BMC Aspeed AST2400 BMC<br>**Management**<br>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog IPMI 2.0 (R145) with dedicated LAN port and KVM via BMC VGA Integrated remote management with dedicated port<br>**Drive Bays**<br>1x 3.5" fix drive bay or 4x 2.5" fixed drive bay with bracket 4x 2.5" HDD Intel® SoC-based 2x 3.5" or 4x 2.5" SATA3 bays<br>**Peripheral Bays**<br>N/A N/A N/A<br>**Power Supply**<br>200W Multi-output power supply Gold level w/20pin Redundant 400W Platinum Level power supplies PWS-203-1H<br>**Cooling System**<br>PASSive CPU heat sink and 3x 40mm chassis fans 4x 40x56mm cooling fan Active CPU fan, 40mm chassis fan<br>**Form Factor**<br>437 x 43 x 249mm (17.2" x 1.7" x 9.8") 1U Rackmount; Enclosure: 437 x 43 x 249mm (17.2" x 1.7" x 9.8") Package: 686 x 203 x 610mm (27" x 8" x 24") 1U rackmount form factor, less than 10" depth; Enclosure: 437 x 43 x 249mm (17.2" x 1.7" x 9.8") Package: 655 x 155 x 465mm (25.8" x 6.1" x 18.3") Gross Weight: 12lbs (5.44kg) Net Weight: 8lbs (3.63kg)

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
### Low-Power

**Front I/O Network Appliance for Security Atom® Appliance**

**Intel® Atom® C2758, 8-Core Rangeley**

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<thead>
<tr>
<th>MODEL</th>
<th>SYS-5018A-TN4</th>
<th>SYS-5018A-FTN4</th>
<th>SYS-5018A-MHN4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom® C2750</td>
<td>Intel® Atom® 2758 SoC, 8C, 22nm (Rangeley, 20W)</td>
<td>Intel® Atom® Processor C2758, SoC B-Core, 20W, 2.4GHz</td>
</tr>
<tr>
<td>Key Applications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Application and data serving, Automation, Cloud and Virtualization needs</td>
<td>Cloud and Virtualization needs</td>
<td>Cloud and Virtualization needs</td>
</tr>
<tr>
<td></td>
<td>SOHO Entry-Level Server, Web Server, Web Server for Small and Medium Business</td>
<td>Embedded Applications</td>
<td>Data Center</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 1 PCI-E x8 slot</td>
<td>• 1 PCI-E x8 slot</td>
<td>• 1 PCI-E 2.0 x8 slot with dedicated LAN</td>
</tr>
<tr>
<td></td>
<td>• 200W Low-Noise power supply</td>
<td>• 4x 2.5&quot; SATA drives</td>
<td>• Optimized for Power Saving and Improved Cooling</td>
</tr>
<tr>
<td></td>
<td>• Compact size chassis, cost-effective UP platform</td>
<td>• 1 PCI-E x8 slot</td>
<td>• 4 hot-swap 3.5&quot; SATA/SAS Drive Bays</td>
</tr>
<tr>
<td></td>
<td>• IPMI 2.0 + KVM with dedicated LAN</td>
<td>• 4x 2.5&quot; SATA drives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Optimized for small business</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® A1SAI-2750F</td>
<td>SUPER® A1SRi-2758F</td>
<td>SUPER® A1SRM-2758F</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip chipset</td>
<td>System on Chip</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 32GB ECC DDR3 1600/1333MHz SODIMM in 4 DIMM slots</td>
<td>Up to 32GB DDR3-1600 Un-buffered ECC-SODIMM</td>
<td>Up to 64GB ECC/non-ECC UDIMM, DDR3-1600MHz in 4 sockets</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1x PCI-E 2.0 x8 slot via riser card</td>
<td>1 PCI Express 2.0 x8 on riser</td>
<td>1 PCI-E 2.0 x8(FH,HL)</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>SoC controller for 4 SATA2 (3Gbps) ports; 2 SATA3 (6Gbps)</td>
<td>N/A</td>
<td>SoC controller for 4 SATA2 (3 Gbps); 2 SATA3 (6 Gbps)</td>
</tr>
<tr>
<td>Price Connectivity</td>
<td>4x RJ45 Gigabit Ethernet LAN ports 1x RJ45 Dedicated IPMI LAN port 4x USB 3.0 ports (2 rear, 1 Type A, 1 via header) 2x USB 2.0 ports (2 rear) 2x Fast UART 16550 Serial Port (1 rear, 1 via header)</td>
<td>4x RJ45 Gigabit Ethernet LAN ports 1x RJ45 Dedicated IPMI LAN port 4x USB 3.0 ports (2 rear, 1 Type A, 1 via header) 2x USB 2.0 ports (2 rear) 2x Fast UART 16550 Serial Port (1 rear, 1 via header) 1x SATA DOM (Disk on Module) power connector</td>
<td>4x 1GbE LAN, 1 dedicate IPMI LAN, 4 USB2.0, 1 serial port(DB9)</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>AST2400 VGA 4x USB3.0, 2 x USB2.0</td>
<td>BMC integrated Aspeed AST2400, 1x VGA port</td>
<td>VGA via BMC</td>
</tr>
<tr>
<td>Management</td>
<td>IPMI 2.0 + KVM with dedicated LAN, SuperDoctor® 5, Watchdog</td>
<td>IPMI 2.0 on dedicated LAN port</td>
<td>IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>2x 3.5” fixed HDD (no expansion slot), or 1x 3.5” fixed HDD (low profile slot only), or 4x 2.5” fixed HDD (no expansion slot), or 2x 2.5” fixed HDD (full height and half length)</td>
<td>2x 3.5” fixed SATA3 (opt 4x 2.5&quot;)</td>
<td>1x 3.5” fixed drive bay or up to 4x 2.5” fixed drive bay</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>1 slim DVD-ROM drive bay</td>
</tr>
<tr>
<td>Power Supply</td>
<td>200W Low-Noise AC-DC power supply with PFC</td>
<td>200W</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
</tr>
<tr>
<td>Cooling System</td>
<td>Built-in CPU heatsink; optional 40x28mm fan; 1x high-efficiency power supply with thermal control fan</td>
<td>1x High-efficiency power supply with thermal control fan</td>
<td>2x 4cm high performance PWM fan</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-1U Rackmount 437 x 43 x 249mm (17.2” x 1.7” x 9.8”)</td>
<td>1U compact, less than 10”</td>
<td>1U Rackmount; Enclosure: 437 x 43 x 504mm (17.2” x 1.7” x 19.85”)</td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5028L-TN2</th>
<th>SYS-5028A-TN4</th>
<th>SYS-5028D-TN4T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Xeon® E3-1200 v3 and 4 Gen. Core i3/i5/i7, Celeron®, Pentium®</td>
<td>Intel® Atom® C2758 Processor, SoC B-8-Core, 20W, 2.4GHz</td>
<td>Intel® Xeon® Processor D-1541 SoC B Core 16 Thread, TDP 45W</td>
</tr>
</tbody>
</table>
| Key Applications | • Compact Cloud Server  
• Database Processing & Storage  
• High Performance NAS Servers  
• Business Intelligence  
• Security Appliance and Video Surveillance  
• Web Server for Small and Medium Business | • Embedded Applications  
• Cloud and Virtualization needs  
• NAS Servers  
• SOHO Entry-Level Server  
• Corporate - WINS, DNS, Print, Login  
• e-Business | • Network Security Appliance  
• Compact Cloud Server  
• High Performance NAS Servers  
• Virtualization Server  
• Business Critical Applications  
• Web Server for Small and Medium Business |
| Outstanding Features | • Up to 4 Hot-Swap 3.5" SATA3 HDD and 2 internal 2.5" fixed HDD  
• DP, HDMI and DVI-I: 3 independent displays  
• 2x Gigabit LAN ports  
• TPM 1.2 Headers  
• Up to 16GB DDR3 non-ECC 1600MHz SODIMM  
• 1x PCI-E 3.0 x16 slot | • 4x 3.5" SATA Hot Swap Tray and 2 x2.5" internal HDD bay  
• Support up to 64G ECC SODIMM  
• One low profile expansion slot for PCI-E2.0x8 | • Up to 128GB ECC RDIMM DDR4 2133MHz or 64GB ECC/non-ECC UDIMM in 4 sockets  
• 2x Gigabit + 2x 10G LAN ports  
• Up to 4 Hot-Swap 3.5" SATA3 HDD and 2 internal 2.5" fixed HDD  
• IPMI 2.0 + KVM with dedicated LAN  
• 1x Low Profile PCI-E 3.0 x16 and 1x M.2 PCI-E 3.0 x4, Key 2242/2280 |
| Serverboard | SUPER® X10SLV-Q | SUPER® A1SR1-2758F | SUPER® X10SDV-TLN4F |
| Chipset | Intel® Q87 chipset | System on Chip | System on Chip |
| System Memory (Max.) | 16 GB, DDR3-1600MHz non-ECC SODIMM in 2 sockets | Up to 64GB DDR3 1600MHz ECC SODIMM in 4 DIMM sockets | 128GB Registered ECC, DDR4-2133MHz 64GB Unbuffered ECC/non-ECC, DDR4-2133MHz in 4 DIMM slots |
| Expansion Slots | 1x PCI-E 3.0 x16 slot 1x Mini-PCI-E w/ mSATA support | PCI-E 2.0 x8 | 1x PCI-E 3.0 x16(Low Profile); 1 M.2 PCI-E 3.0x4 M Key 2242/2280 |
| Onboard Storage Controller | SoC controller for 4x SATA 3.0 ports (6Gbps) with RAID 0.1.5.10 | SoC controller for 4 SATA2 (3 Gbps) ports; 2 SATA3 (6 Gbps) | SoC controller for 6 SATA3 (6 Gbps) ports |
| Connectivity | 2x 1GbE LAN, 2 USB3.0, 2 USB2.0 | 4x 1GbE LAN, 1 dedicate IPMI LAN, 2 USB3.0, 2 USB2.0, 1 serial port(DB9) | 2x 1GbE LAN, 2x 10GBase-T LAN, 1 dedicate IPMI LAN, 2 USB3.0(rear), 2 USB2.0(front) |
| VGA/Audio | Intel® HD 4600 Graphics, 1 DisplayPort, 1 HDMI, 1 DVI-I, 3 Independent Displays | VGA via BMC | VGA via BMC |
| Management | SuperDoctor® III Watch Dog NMI | IPMI2.0; NMI; SuperDoctor V; Watch Dog; | |
| Drive Bays | 4x 3.5" hot-swap SAS/SATA drive bay | 4x 3.5" SATA Hot Swap drive bay and 2 x2.5" internal drive bay | 4x 3.5" SATA Hot Swap drive bay and 2 x2.5" internal drive bay |
| Peripheral Bays | 1 slim DVD-ROM drive bay (share with one 3.5" drive bay) | 1 slim DVD-ROM drive bay (share with one 2.5" drive bay) | 1 slim DVD-ROM drive bay (shared with 1x 2.5" fixed drive bay) |
| Power Supply | No Redundant 1 Qty. PWS-251-1H | 250W Flex ATX Multi-output Bronze Power Supply | |
| Cooling System | 1x 12cm rear exhaust fan, SNK-P0046A4 (optional) | 1x 12cm rear exhaust fan | 1x Active CPU cooler |
| Form Factor | 210 x 240 x 279mm (8.27" x 9.45" x 11") | 210 x 240 x 279mm (8.27" x 9.45" x 11") | 210 x 240 x 279mm (8.27" x 9.45" x 11") |

* Please check with your Supermicro sales representative and website for compatibility and configuration details
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5019S-M2</th>
<th>SYS-1019S-M2</th>
<th>SYS-5019S-TN4</th>
<th>SYS-1019S-MP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® 6th/7th Generation Core™ i3, i5, i7 series Intel®, Pentium®, Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v5 series, Intel® Xeon® processor E3-1200 v6.</td>
<td>Intel® 6th/7th Generation Core™ i3, i5, i7 series Intel®, Pentium®, Celeron*</td>
<td>Intel® Xeon® Processor Skylake-H E3-1585v5 SoC, 4 Cores, 65W</td>
<td>Intel® Xeon® Processor E3-1515M v5 (Skylake-H), Single socket FC-BGA 1440, 4-Core, 8 Threads, 45W</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>- 4x 3.5” SAT3 hot-swap drive bays - 2x Gigabit LAN with AMT - 7 year life cycle</td>
<td>- 6th/7th Generation Intel® Core i7, i5, i3, Pentium and Celeron Processor - Remote management via IPMI or vPro - 2x Gigabit LAN ports, HDMI/DVI/DVI-I - 3 independent displays - Full Height and Full Length add on card support - Power redundancy or BBP support</td>
<td>- Faster Transcoding for Web Streaming - 4x SATA(6Gbps) via C236; RAID 0, 1, 5, 10 - Intel® Iris Pro Graphics with 128M B of on-Package cache (eDRAM) for high performance graphics - VHD, Media CODEC (HEVC, JPEG, VP8) and IPMI 2.0 (Shared LAN) - Up to 18 AVC streams or 8 HEVC streams at 1080p 30FPS, or 2 HEVC streams at 4K 30FPS</td>
<td>- Intel® Iris Pro Graphics PS80 with 128MB of on-Package cache (eDRAM) for high performance graphics - HDMI, Display Port, DVI-I, 3 independent displays</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X11SSZ-F</td>
<td>SUPER® X11SSZ-QF</td>
<td>SUPER® X11SSV-M4</td>
<td>SUPER® X11SSV-M4</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C236 chipset</td>
<td>Intel® Q170 Express chipset</td>
<td>System On Chip</td>
<td>Intel® CM236 chipset</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 64GB Unbuffered ECC/Non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 32GB ECC/Non-ECC Unbuffered SO-DIMM DDR4 2133MHz, 2 DIMM slots</td>
<td>Up to 32GB ECC/Non-ECC Unbuffered SO-DIMM DDR4 2133MHz, 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI Express 3.0 x16 FH, HL slot</td>
<td>1 PCI-E 3.0 x16</td>
<td>1x PCI-E 3.0 x16 1x M.2 (M key, 80mm)</td>
<td>1 Mini-PCI-E (mSATA support), 1 M.2 PCI-E 3.0 x4 (SATA support), M Key 2242/2280</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>Intel® C236 chipset</td>
<td>Intel® Q170 Express controller for 2 SATA3 (6Gbps) ports; RAID 0, 1, 5, 10</td>
<td>Intel® C236 controller for 4 SAT3 (6 Gbps) ports; RAID 0,1,5,10 Intel® RSTe</td>
<td>Intel® CM236 controller for 4 SAT3 (6 Gbps) ports; RAID 0,1,5,10; Intel® RSTe</td>
</tr>
<tr>
<td>Connectivty</td>
<td>4 USB 3.0 (2x rear), 9 USB 2.0 (2x rear) 1 USB 2.0 Type A 2x Serial header 1x SuperDOM (shared)</td>
<td>2x 1GbE, 1 dedicated IPMI LAN, 2 USB3.0, 2 USB2.0</td>
<td>1x 1GbE LAN, 1 dedicated IPMI LAN, 4 USB 3.0</td>
<td>4 x 1GbE LAN, 4 USB 3.0</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>Intel® HD Graphics, Aspeed AST2400 BMC</td>
<td>2DP (DisplayPort), 1 DVI-I, 1 VGA, Intel® HD Graphics, Aspeed AST2400 BMC</td>
<td>DVI-A via BMC</td>
<td>1 HDMI2.0, 1 DP1.2, 1 DVI-I;Intel® Iris Pro Graphics P580.3 independent displays ALC 8885 HD Audio</td>
</tr>
<tr>
<td>Management</td>
<td>AMT, IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, vPro, Watchdog</td>
<td>AMT, IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, vPro, Watchdog</td>
<td>IPMI2.0; NMI; SPM; SSU; SuperDoctor® 5; Watchdog; vPro AMT</td>
<td></td>
</tr>
<tr>
<td>Drive Bays</td>
<td>4x 3.5” hot-swap SAS/SATA</td>
<td>2x 2.5” fixed with bracket</td>
<td>1x 3.5” or 2x 2.5” HDD</td>
<td>1 internal 2.5” Hard Drive</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>1x Slim DVD-ROM Drive(option)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>1U 350W Multi-output power supply Platinum level</td>
<td>1x PWS-407P-1R, Platinum Level and support 2nd redundant PSU PWS-407P-1R or battery backup unit PWS-206B-1R</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
<td>84W DC power adapter</td>
</tr>
<tr>
<td>Cooling System</td>
<td>4x 40x28mm PWM fan; 2x 40x28mm PWM fan(option)</td>
<td>4x 40x56mm PWM fan; 2x fans for AOC cooling</td>
<td>2x 40x28mm 4-PIN PWM FAN(FAN-0154L4, 22K RPM) with air shroud 1U Short Depth Rackmount; Enclosure: 437 x 43 x 429mm (17.2” x 1.7” x 16.9”) Package: 686 x 203 x 610mm (27” x 8” x 24”)</td>
<td>2x 6cm cooling fan</td>
</tr>
<tr>
<td>Form Factor</td>
<td>437 x 43 x 503mm (17.2” x 1.7” x 19.85”)</td>
<td>437 x 43 x 429mm (17.2” x 1.7” x 16.9”)</td>
<td>437 x 43 x 429mm (17.2” x 1.7” x 16.9”)</td>
<td>437 x 43 x 429mm (17.2” x 1.7” x 16.9”)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-1028R-MCT</th>
<th>SYS-1028R-MCTR (shown)</th>
<th>SYS-1028R-TDW</th>
<th>SYS-5018A-MLHN4</th>
<th>SYS-5018A-MLTN4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Dual Intel® Xeon® Processor ES-2600 v4/v3 product families supported; QPI up to 9.6GT/s</td>
<td>Dual Intel® Xeon® Processor ES-2600 v4/v3 product families supported; QPI up to 9.6GT/s</td>
<td>Intel® Atom® C2550</td>
<td>Intel® Atom® C2550</td>
<td></td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Data Center</td>
<td>• Data Center</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Web Server</td>
<td>• Hosting &amp; Application delivery</td>
<td></td>
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<tr>
<td></td>
<td>• Enterprise Server</td>
<td>• Database Processing &amp; Storage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Managed Hosting</td>
<td>• Simulation &amp; Automation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• IPMI 2.0 + KVM with dedicated LAN</td>
<td>• 600W Platinum Level high-efficiency power supply</td>
<td>• 1 PCI-E x8 slot</td>
<td>• Cloud and Virtualization needs, Cloud Computing, Corporate- WINS, DNS, Print, Login, Data Center, Database Applications, DataCenter Applications e-Business, Enterprise Server</td>
<td>• Cloud and Virtualization needs, Cloud Computing, Corporate- WINS, DNS, Print, Login, Data Center, Database Applications, DataCenter Applications e-Business, Enterprise Server</td>
</tr>
<tr>
<td></td>
<td>• 2x 10GBase-T Ports</td>
<td>• 16 DIMM DDR4-2133MHz</td>
<td>• 4-hot swap-3.5 SATA/SAS Drive Bays</td>
<td>• 1 PCI-E 3.0 x16 (Full-Height, Half-Length)</td>
<td>• 2 Internal 3.5” SATA drive bays</td>
</tr>
<tr>
<td></td>
<td>• 3108 controller for 8 SAS3 (12Gbps) hot-swappable drives</td>
<td>• Up to 3 add-on cards</td>
<td>• IPMI 2.0 + KVM with dedicated LAN</td>
<td>• 1 PCI-E 3.0 (LP)</td>
<td>• 2000W low-power supply</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Optimized for Power Saving and Improved Cooling</td>
<td>• SATA 3.0 (6Gbps) support</td>
<td></td>
<td>• Compact size chassis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Cost effective UP platform</td>
<td>• Cost effective UP platform</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• IPMI 2.0 + KVM with dedicated LAN</td>
<td>• IPMI 2.0 + KVM with dedicated LAN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• SATA 3.0 (6Gbps) support</td>
<td>• SATA 3.0 (6Gbps) support</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Short-depth, space saving design</td>
<td></td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X10DRL-CT</td>
<td>SUPER® X10DDW-i</td>
<td>SUPER® A15AM-2550F</td>
<td>SUPER® A15AM-2550F</td>
<td></td>
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<tr>
<td>Chipset</td>
<td>Intel® C612 Chipset</td>
<td>Intel® C612 Chipset</td>
<td>System on Chip chipset</td>
<td>System on Chip chipset</td>
<td></td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 1TB ECC 3DS LRDIMM or RDIMM DDR4-2400MHz in 8 DIMM slots</td>
<td>Up to 2TB ECC 3DS LRDIMM or RDIMM DDR4-2400MHz in 16 DIMM slots</td>
<td>Up to 64GB ECC/non-ECC UDIMM, DDR3-1600MHz in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered ECC/non-ECC, DDR3-1600MHz in 4 DIMM slots</td>
<td></td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x8</td>
<td>2 PCI-E 3.0 x16 (Full-Height, Half-Length)</td>
<td>1 PCI-E 2.0 x8 (FH/HL)</td>
<td>1 PCI-E 2.0 x8 (FH/HL)</td>
<td></td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>Intel® C612 controller for 8 SATA3 (6Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® X540 10GBase-T Ethernet Controller</td>
<td>Quad LAN with SoC</td>
<td>Quad LAN with SoC</td>
<td></td>
</tr>
<tr>
<td>Connectivity</td>
<td>Dual LAN with Intel® Ethernet Controller (21OL)</td>
<td>Dual LAN with Intel® i350 Gigabit Ethernet controller</td>
<td>AST2400 VGA</td>
<td>AST2400 VGA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3108 HW with 2G Cache controller for 8 SAS3 (12Gbps) ports; RAID 0,1,5,10,50,60; Intel® C612 controller for 6 SATA3 (6Gbps) ports; RAID 0,1,5,10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Management</td>
<td>IPMI 2.0 + KVM with dedicated LAN, Intel® Node Manager, SUM, SPM, SSM, SuperDoctor® V, Watchdog</td>
<td>IPMI 2.0 + KVM with dedicated LAN, Intel® Node Manager, SUM, SPM, SSM, SuperDoctor® V, Watchdog</td>
<td>IPMI2.0; NMI; SuperDoctor V; Watchdog</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drive Bays</td>
<td>8x 2.5” hot-swap SATA/SAS drive bays</td>
<td>8x 2.5” hot-swap SATA HDD drive bays</td>
<td>2x 3.5” internal drive bays</td>
<td>2x 3.5” internal drive bays</td>
</tr>
<tr>
<td></td>
<td>Peripheral Bays</td>
<td>1 slim DVD-ROM drive (optional)</td>
<td>1 slim DVD-ROM drive (optional)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>MCTR: Redundant 600W Platinum Level high-efficiency power supply</td>
<td>600W Platinum Level high-efficiency power supply</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Power Supply</td>
<td>2000W Low Noise AC-DC power supply with PFC</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
<td></td>
</tr>
<tr>
<td>Cooling System</td>
<td>4x 4cm high performance PWM fans with optimal fan speed control</td>
<td>5x 4cm heavy duty counter-rotating fans with optimal fan speed control</td>
<td>2x 4cm high performance PWM fans</td>
<td>1x 10cm 3,800 RPM PWM blower fan</td>
<td></td>
</tr>
<tr>
<td>Form Factor</td>
<td>1U Rackmount 437 x 43 x 503mm (17.2” x 1.7” x 19.8”)</td>
<td>1U Rackmount 437 x 43 x 597mm (17.2” x 1.7” x 23.5”)</td>
<td>1U rackmount 437 x 43 x 503mm (17.2” x 1.7” x 19.8”)</td>
<td>1U rackmount 426x 43 x 356mm (16.8” x 1.7” x 14”)</td>
<td></td>
</tr>
</tbody>
</table>
Fanless/IoT Gateway
Fanless & robust design
Low power consumption
Wide-range working temperature & voltage

Compact Mini Tower
Support up to 80W TDP processor
Hot-swap 3.5" HDD for RAID
Low profile expansion slot for diversified application

IPC
Rackmount with expansion capabilities
Flexible Front I/O
Up to 11 PCI-E Expansion slots

Compact Box System
Building block design
Commercial off-the-shelf with extended product life cycle
Easy deployment

1U Rack System
1U Rackmount with advanced cooling design
Flexible I/O at front and rear
Remote Management & FW upgrade via IPMI 2.0

Front Bezel/LCD

<table>
<thead>
<tr>
<th>Model</th>
<th>MCP-220-00095-0B</th>
<th>MCP-220-00095-0B</th>
<th>MCP-210-00007-01</th>
<th>SCPTFB-813LB</th>
<th>MCP-210-82502-0B</th>
<th>MCP-210-84201-0B</th>
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</thead>
<tbody>
<tr>
<td>Feature</td>
<td>LCD display kits</td>
<td>Full-color OLED kit</td>
<td>Front bezel with LCD display</td>
<td>Front bezel with lock</td>
<td>Front bezel with lock</td>
<td>Front bezel with lock</td>
</tr>
<tr>
<td>Form Factor/ chassis</td>
<td>5.25&quot; bay</td>
<td>3.5&quot;HDD bay</td>
<td>SC813/813M series</td>
<td>SC813/813M series</td>
<td>SC825M series</td>
<td>SC842 series</td>
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Chassis

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<tr>
<th>Model</th>
<th>SCE102</th>
<th>SCE301</th>
<th>SCE403IF</th>
<th>SCE300-LED</th>
<th>SCE300</th>
<th>SCE10F</th>
<th>SCE10S</th>
<th>SCE10i</th>
<th>SCE10iF</th>
<th>SCE721TQ-250B</th>
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<tbody>
<tr>
<td>Form Factor/ chassis</td>
<td>3.5&quot; SBC/Pico-ITX</td>
<td>Compact Box</td>
<td>Wall-Mount</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Mini Tower</td>
</tr>
<tr>
<td>Compatible Motherboard</td>
<td>3.5&quot; SBC, PICO-ITX</td>
<td>Flex-ATX 9.0” x 7.25”</td>
<td>3.5&quot; SBC, PICO-ITX</td>
<td>Flex-ATX 9.0” x 7.25”</td>
<td>Mini-ITX</td>
<td>Mini-ITX</td>
<td>Mini-ITX</td>
<td>Mini-ITX</td>
<td>Mini-ITX</td>
<td>Mini-ITX</td>
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<tr>
<td>Drive Bays</td>
<td>1x 2.5&quot; fixed drive bay</td>
<td>8x 2.5&quot; fixed drive bay</td>
<td>1x fixed 2.5&quot; SATA</td>
<td>1x 2.5&quot; fixed drive bay</td>
<td>1x fixed 2.5&quot; SATA</td>
<td>1x fixed 2.5&quot; SATA</td>
<td>1x fixed 2.5&quot; SATA</td>
<td>1x fixed 2.5&quot; SATA</td>
<td>1x fixed 2.5&quot; SATA</td>
<td>1x fixed 2.5&quot; SATA</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>Front bezel with lock</td>
<td>Front bezel with lock</td>
<td>Front bezel with lock</td>
<td>Front bezel with lock</td>
<td>Front bezel with lock</td>
<td>Front bezel with lock</td>
<td>Front bezel with lock</td>
<td>Front bezel with lock</td>
<td>Front bezel with lock</td>
<td>Front bezel with lock</td>
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<tr>
<td>Dimensions (WxDxH)</td>
<td>7.48” x 1.72” x 12.0”</td>
<td>10.43” x 2.57” x 8.9”</td>
<td>10.43” x 2.57” x 8.9”</td>
<td>10.43” x 2.57” x 8.9”</td>
<td>10.43” x 2.57” x 8.9”</td>
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<td>10.43” x 2.57” x 8.9”</td>
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<tr>
<td>Form Factor</td>
<td>1U Rackmount</td>
<td>1U Rackmount</td>
<td>1U Rackmount</td>
<td>1U Rackmount</td>
<td>1U Rackmount</td>
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<tr>
<td>Compatible Motherboard</td>
<td>Flex ATX, Mini-ITX</td>
<td>Flex ATX, Mini-ITX</td>
<td>MicroATX</td>
<td>MicroATX</td>
<td>ATX, MicroATX</td>
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<tr>
<td>CPU Support</td>
<td>Single processor</td>
<td>Single processor</td>
<td>Single processor</td>
<td>Single processor</td>
<td>Single processor</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Drive Bays</td>
<td>2x Fixed 3.5&quot; or 4x Fixed 2.5&quot; SATA</td>
<td>2x Fixed 3.5&quot; or 4x Fixed 2.5&quot; SATA</td>
<td>2x hot-swap 2.5&quot; SATA</td>
<td>Up to 4x Fixed 2.5&quot; SATA*</td>
<td>1x Fixed 2.5&quot; or 3.5&quot; SATA</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Expansion Slots</td>
<td>1x full-height, half-length</td>
<td>1x full-height, half-length</td>
<td>1x low profile, half-length</td>
<td>1x full-height, half-length**</td>
<td>1x full-height, half-length*</td>
<td></td>
<td></td>
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<tr>
<td>Dimensions (WxDxH)</td>
<td>17.2&quot;x9.8&quot;x1.7&quot;</td>
<td>17.2&quot;x9.8&quot;x1.7&quot;</td>
<td>17.2&quot;x11.3&quot;x1.7&quot;</td>
<td>17.2&quot;x9.8&quot;x1.7&quot;</td>
<td>16.8&quot;x14&quot;x1.7&quot;</td>
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* When ADC area not occupied
** When HDD area not occupied

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<tbody>
<tr>
<td>Form Factor</td>
<td>15&quot; Mini 1U</td>
<td>1U Rackmount</td>
<td>15&quot; Mini 1U</td>
<td>1U Rackmount</td>
<td>1U Rackmount</td>
<td>1U Rackmount</td>
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<tr>
<td>Compatible Motherboard</td>
<td>12&quot; x 13&quot; E-ATX</td>
<td>ATX, MicroATX</td>
<td>12&quot; x 13&quot; E-ATX</td>
<td>WIO</td>
<td>E-ATX, ATX, MicroATX/WIO</td>
<td>ATX, MicroATX/WIO</td>
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<tr>
<td>CPU Support</td>
<td>Dual and single processors</td>
<td>Single processors</td>
<td>Dual and single processors</td>
<td>Dual and single processors</td>
<td>Dual and single processors</td>
<td>Single processors</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>2x 2.5&quot; hot-swap drive bay, Optional 4x 2.5&quot; fixed with bracket</td>
<td>2x Fixed 2.5&quot; or 3.5&quot; SATA</td>
<td>2x 2.5&quot; hot-swap drive bay, Optional 4x 2.5&quot; fixed with bracket</td>
<td>2x Fixed 2.5&quot; HDD</td>
<td>Up to 2x 2.5&quot; fixed with bracket, SAS or enterprise SATA HDD</td>
<td>2x Fixed 2.5&quot; HDD***</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 full-height, half-length (Riser Card Required)</td>
<td>1 full-height, 1 half-length</td>
<td>2 full-height, 1 half-length</td>
<td>2 full-height, 1 low profile, 1 full height</td>
<td>2 full-height</td>
<td>2 full-height</td>
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<tr>
<td>Power Supply</td>
<td>1U 350W Multi-output Platinum Level power supply</td>
<td>350W High-efficiency Gold Level power supply</td>
<td>1U 500W Multi-output Platinum Level power supply</td>
<td>400W (1+1) Redundant SuperCompact Gold-Level power supply with PMBus and iC</td>
<td>500W High-efficiency Power Supply 80 PLUS® Platinum Certified</td>
<td>400W (1+1) Redundant SuperCompact Platinum-level power supply with PMBus and iC</td>
</tr>
<tr>
<td>Dimensions (WxDxH)</td>
<td>17.2&quot;x15&quot;x1.7&quot;</td>
<td>17.2&quot;x14.5&quot;x1.7&quot;</td>
<td>17.2&quot;x15&quot;x1.7&quot;</td>
<td>17.2&quot;x16.9&quot;x1.7&quot;</td>
<td>17.2&quot;x16.9&quot;x1.7&quot;</td>
<td>17.2&quot;x16.9&quot;x1.7&quot;</td>
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</table>

*** Extra 2x 2.5" Fixed HDD with ATX MB or Extra 1x 3.5" or 2x2.5 Fixed HDD with WIO and Half Length Add on Card.

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<table>
<thead>
<tr>
<th>Model</th>
<th>SC213XAC-R1K05LP</th>
<th>SC285MBTQC-R802LPB</th>
<th>SC825XTQC-R1K05</th>
<th>SC835TQC-R802B</th>
<th>SC842XTQC-R804B</th>
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<tbody>
<tr>
<td>Form Factor</td>
<td>2U Rackmount</td>
<td>2U 17.7&quot; Short-Depth Compact</td>
<td>2U Rackmount</td>
<td>3U Rackmount</td>
<td>4U Rackmount</td>
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<tr>
<td>Compatible Motherboard</td>
<td>E-ATX, ATX, MicroATX, Max. size 15.2&quot; x 13.2</td>
<td>EE-ATX 13.68&quot; x 13&quot;, E-ATX 12&quot; x 13&quot;, ATX 13&quot; x 13&quot;</td>
<td>E-ATX 12.3&quot;x13&quot;, E-ATX 12x13&quot;, ATX 12&quot;x13&quot;</td>
<td>E-ATX, ATX</td>
<td>E-ATX, ATX, MicroATX; Max. size 15.2&quot; x 13.2</td>
</tr>
<tr>
<td>CPU Support</td>
<td>Dual and single processors</td>
<td>Dual and single processors</td>
<td>Dual and single processors</td>
<td>Dual and single processors</td>
<td>Dual and single processors</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>16x 2.5&quot; hot-swap SAS3/SATA</td>
<td>3x 3.5&quot; hot-swap SAS/SATA with SGPIO, Optional 2x 2.5&quot; hot-swap SAS3/SATA</td>
<td>8x 3.5&quot; hot-swap SAS/SATA with SGPIO, and 2x 3.5&quot; fixed drive bay</td>
<td>8x 3.5&quot; Hot-swap SAS/SATA</td>
<td>5x 3.5&quot; Hot-swap SAS/SATA</td>
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<tr>
<td>Expansion Slots</td>
<td>11x low-profile</td>
<td>7x low-profile</td>
<td>7x low-profile</td>
<td>7x full-height, full-length and 4x full-height, half-length</td>
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<tr>
<td>Power Supply</td>
<td>2x 1U 800/1000W Redundant Power Supplies 38mm Width</td>
<td>800W Redundant Titanium Level Power Supplies</td>
<td>2x 1U 740W Redundant Titanium Level Power Supply w/ PMbus</td>
<td>800W Redundant Titanium Level Power Supplies</td>
<td>800W Redundant Titanium Level Power Supplies</td>
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<tr>
<td>Dimensions (WxDxH)</td>
<td>17.2&quot; x 25.6&quot; x 3.5&quot;</td>
<td>17.2&quot;x17.7&quot;x3.5&quot;</td>
<td>17.2&quot;x25.5&quot;x3.5&quot;</td>
<td>17.2&quot;x25.5&quot;x5.2&quot;</td>
<td>17.2&quot;x20.5&quot;x7&quot;</td>
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SG/Edge/IoT/Embedded Building Block Solutions - May 2023
<table>
<thead>
<tr>
<th>MODEL</th>
<th>X13SEM-F</th>
<th>X13SEM-TF</th>
<th>X13SEI-F</th>
<th>X13SEI-TF</th>
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</thead>
<tbody>
<tr>
<td>Processor</td>
<td>4th Gen Intel® Xeon® Scalable processors supported, CPU TDP supports Up to 350W TDP</td>
<td>4th Gen Intel® Xeon® Scalable processors supported, CPU TDP supports Up to 350W TDP</td>
<td>4th Gen Intel® Xeon® Scalable processors supported, CPU TDP supports Up to 350W TDP</td>
<td>4th Gen Intel® Xeon® Scalable processors supported, CPU TDP supports Up to 350W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td>Form Factor</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>EATX, 12.3” x 10.1” (31.24cm x 25.65cm)</td>
<td>EATX, 12.3” x 10.1” (31.24cm x 25.65cm)</td>
<td>EATX, 12.3” x 10.1” (31.24cm x 25.65cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR5-4800MHz, in 8 DIMM slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR5-4800MHz, in 8 DIMM slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR5-4800MHz, in 8 DIMM slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR5-4800MHz, in 8 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2 PCIe 5.0 x16, 1 PCIe 5.0 x8, 4 PCIe 5.0 x8 PCI Express connector, 2 PCIe 3.0 x4 NVMe Internal Port(s), 6 PCIe 5.0 x4 NVMe Internal Port(s) M.2 Interface: 2 PCIe 4.0 x4 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>2 PCIe 5.0 x16, 1 PCIe 5.0 x8, 4 PCIe 5.0 x8 PCI Express connector, 2 PCIe 3.0 x4 NVMe Internal Port(s), 6 PCIe 5.0 x4 NVMe Internal Port(s) M.2 Interface: 2 PCIe 4.0 x4 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>2 PCIe 5.0 x16, 1 PCIe 5.0 x8, 4 PCIe 5.0 x8 PCI Express connector, 2 PCIe 3.0 x4 NVMe Internal Port(s), 6 PCIe 5.0 x4 NVMe Internal Port(s) M.2 Interface: 2 PCIe 4.0 x4 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>2 PCIe 5.0 x16, 1 PCIe 5.0 x8, 4 PCIe 5.0 x8 PCI Express connector, 2 PCIe 3.0 x4 NVMe Internal Port(s), 6 PCIe 5.0 x4 NVMe Internal Port(s) M.2 Interface: 2 PCIe 4.0 x4 Form Factor: 2280/22110 M.2 Key: M-Key</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with 1GbE with Intel® X550</td>
<td>Dual LAN with 10GbE-T with Intel® X550</td>
<td>Dual LAN with 10GbE-T with Intel® X550</td>
<td>Dual LAN with 10GbE-T with Intel® X550</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2 port(s) (2 rear; 4 via header) 5 USB 3.2 Gen1 port(s) (2 via header; 2 rear; 1 type A)</td>
<td>6 USB 2 port(s) (2 rear; 4 via header) 5 USB 3.2 Gen1 port(s) (2 via header; 2 rear; 1 type A)</td>
<td>6 USB 2 port(s) (2 rear; 4 via header) 5 USB 3.2 Gen1 port(s) (2 via header; 2 rear; 1 type A)</td>
<td>6 USB 2 port(s) (2 rear; 4 via header) 5 USB 3.2 Gen1 port(s) (2 via header; 2 rear; 1 type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 COM Port(s) (1 rear) 2 SATA DOM (Disk on Module) power connector support TPM 2 Header</td>
<td>1 COM Port(s) (1 rear) 2 SATA DOM (Disk on Module) power connector support TPM 2 Header</td>
<td>1 COM Port(s) (1 rear) 2 SATA DOM (Disk on Module) power connector support TPM 2 Header</td>
<td>1 COM Port(s) (1 rear) 2 SATA DOM (Disk on Module) power connector support TPM 2 Header</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis Intrusion header, 5 –fan status, +5V standby, +5V, +3.3V, +12V</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis Intrusion header, 5 –fan status, +5V standby, +5V, +3.3V, +12V</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis Intrusion header, 6 –fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis Intrusion header, 6 –fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages</td>
</tr>
<tr>
<td>Other Features</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis Intrusion detection, ACPI power management</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis Intrusion detection, ACPI power management</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis Intrusion detection, ACPI power management</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis Intrusion detection, ACPI power management</td>
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<td>AMI UEFI</td>
<td>AMI UEFI</td>
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**Model**  
**X13SEW-F**  
**X13SEW-TF**

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<thead>
<tr>
<th>Feature</th>
<th>X13SEW-F</th>
<th>X13SEW-TF</th>
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<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>4th Gen Intel® Xeon® Scalable processors</td>
<td>4th Gen Intel® Xeon® Scalable processors</td>
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<tr>
<td></td>
<td>Single Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
<td>Single Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C741</td>
<td>Intel® C741</td>
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<tr>
<td><strong>Form Factor</strong></td>
<td>Proprietary WIO, 8” x 13” (20.32cm x 33.02cm)</td>
<td>Proprietary WIO, 8” x 13” (20.32cm x 33.02cm)</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 2TB 3DS ECC RDIMM, DDR5-4800MHz, in 8 DIMM slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR5-4800MHz, in 8 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 5.0 x8 Right Riser (in x16) slot, 1 PCIe 5.0 x32 Left Riser Slot, 5 PCIe 5.0 x8 PCIE5.0 MCIO connector</td>
<td>1 PCIe 5.0 x8 Right Riser (in x16) slot, 1 PCIe 5.0 x32 Left Riser Slot, 5 PCIe 5.0 x8 PCIE5.0 MCIO connector</td>
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<tr>
<td><strong>M.2 Interface</strong></td>
<td>1 PCIe 3.0 x2</td>
<td>1 PCIe 3.0 x2</td>
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<tr>
<td><strong>Form Factor</strong></td>
<td>2280/22110</td>
<td>2280/22110</td>
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<td><strong>M.2 Key</strong></td>
<td>M-Key</td>
<td>M-Key</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® C741 controller for 10 SATA3 (6 Gbps) ports</td>
<td>Intel® C741 controller for 10 SATA3 (6 Gbps) ports</td>
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<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with 1GbE with Intel® I210</td>
<td>Dual LAN with 10GbE-T with Intel® X550</td>
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<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
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<tr>
<td></td>
<td>1 Aspeed AST2600 BMC port(s)</td>
<td>1 Aspeed AST2600 BMC port(s)</td>
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<tr>
<td><strong>USB Ports</strong></td>
<td>5 USB 2 port(s) (2 via header; 2 rear; 1 Type A)</td>
<td>5 USB 2 port(s) (2 via header; 2 rear; 1 Type A)</td>
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<tr>
<td></td>
<td>4 USB 3.2 Gen1 port(s) (2 via header; 2 rear)</td>
<td>4 USB 3.2 Gen1 port(s) (2 via header; 2 rear)</td>
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<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>2 COM Port(s) (1 header; 1 rear)</td>
<td>2 COM Port(s) (1 header; 1 rear)</td>
</tr>
<tr>
<td></td>
<td>2 SATA DOM (Disk on Module) power connector support TPM 2 Header</td>
<td>2 SATA DOM (Disk on Module) power connector support TPM 2 Header</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>SuperDoctor® 5, SPM, SUM, SSM, IPMICFG, IPMIView for Linux/Windows, SMCPIMITool, Trusted Platform Module (TPM), Chassis Intrusion Detection</td>
<td>SuperDoctor® 5, SPM, SUM, SSM, IPMICFG, IPMIView for Linux/Windows, SMCPIMITool, Trusted Platform Module (TPM), Chassis Intrusion Detection</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6 -fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6 -fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>
### MODEL X13SAZ-F

**Processor**
- 13th/12th Generation Intel Core i9/Core i7/Core i5/ Core i3/Pentium/Celeron Processor
- Single Socket LGA-1700 supported
- Intel R680E

**Chipset**
- 13th/12th Generation Intel Core i9/Core i7/Core i5/Core i3/Pentium/Celeron Processor
- Single Socket LGA-1700 supported
- Intel Q670E

**Form Factor**
- Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)

**Memory Capacity & Slots**
- Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR5-4400MHz, in 4 DIMM slots
- Supports up to 128GB of DDR5 UDIMM with speeds of up to 4400MT/s with one DIMM, or 4000MT/s with two DIMM single rank, or 3600MT/s with two DIMM dual rank in four memory slots

**Expansion Slots**
- 1 PCIe 5.0 x16, 2 PCIe 4.0 x4 (in x8 slot)
- M.2 Interface: 1 PCIe 4.0 x4
- Form Factor: 2280/22110
- M.2 Key: M-Key

**Onboard RAID Controller**
- Intel R680E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10

**Onboard LAN**
- Dual LAN with Intel® Ethernet i225LM

**Onboard VGA**
- 1 VGA port(s), 1 DVI - D port(s), 1 HDMI 2.0b port(s), 2 DP (DisplayPort) port(s)

**USB Ports**
- 2 USB 2 port(s) (2 via header)
- 6 USB 3.2 Gen2 port(s) (4 rear type A; 2 via header)
- 2 USB 3.2 Gen1 port(s) (2 via header)

**Other Onboard I/O Devices**
- ALC 8885 HD Audio
- SuperDoctor® 5, SUM, AMT, vPro, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMICFG, IPMIView for Linux/Windows, SMICPMTool
- Manageability
- PC Health Monitoring
- 4 Fans with tachometer monitoring, 1.05 (PCH), +5V standby, +5V, +3.3V, +12V, +1.8V, +1.5V, +1.35V, 5 fans with tachometer status monitoring, BMC/IPMI Heartbeat LED, Dual Cooling Zone, UID
- Other Features
- RoHS, M.2 NGFF connector, Chassis intrusion detection, ATX Power connector, ACPI power management, 12V DC or ATX Power Source
- BIOS
- AMI UEFI

### MODEL X13SAZ-Q

**Processor**
- 13th/12th Generation Intel Core i9/Core i7/Core i5/Core i3/Pentium/Celeron Processor
- Single Socket LGA-1700 supported
- Intel R680E

**Chipset**
- 13th/12th Generation Intel Core i9/Core i7/Core i5/Core i3/Pentium/Celeron Processor
- Single Socket LGA-1700 supported
- Intel Q670E

**Form Factor**
- Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)

**Memory Capacity & Slots**
- Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR5-4400MHz, in 4 DIMM slots
- Supports up to 128GB of DDR5 UDIMM with speeds of up to 4400MT/s with one DIMM, or 4000MT/s with two DIMM single rank, or 3600MT/s with two DIMM dual rank in four memory slots

**Expansion Slots**
- 1 PCIe 5.0 x16, 2 PCIe 4.0 x4 (in x8 slot)
- M.2 Interface: 1 PCIe 4.0 x4
- Form Factor: 2280/22110
- M.2 Key: M-Key

**Onboard RAID Controller**
- Intel Q670E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10

**Onboard LAN**
- Dual LAN with Intel® Ethernet i225LM

**Onboard VGA**
- 1 VGA port(s), 1 DVI - D port(s), 1 HDMI 2.0b port(s), 2 DP (DisplayPort) port(s)

**USB Ports**
- 2 USB 2 port(s) (2 via header)
- 6 USB 3.2 Gen2 port(s) (4 rear type A; 2 via header)
- 2 USB 3.2 Gen1 port(s) (2 via header)

**Other Onboard I/O Devices**
- ALC 8885 HD Audio
- SuperDoctor® 5, AMT, vPro
- Manageability
- PC Health Monitoring
- 4 Fans with tachometer monitoring, 1.05 (PCH), +5V standby, +5V, +3.3V, +12V, +1.8V, +1.5V, +1.35V
- Other Features
- RoHS, M.2 NGFF connector, Chassis intrusion detection, ATX Power connector, ACPI power management, 12V DC or ATX Power Source
- BIOS
- AMI UEFI

### MODEL X13SAQ

**Processor**
- 13th/12th Generation Intel Core i9/Core i7/Core i5/Core i3/Pentium/Celeron Processor
- Single Socket LGA-1700 supported
- Intel R680E

**Chipset**
- 13th/12th Generation Intel Core i9/Core i7/Core i5/Core i3/Pentium/Celeron Processor
- Single Socket LGA-1700 supported
- Intel Q670E

**Form Factor**
- Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)

**Memory Capacity & Slots**
- Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR5-4400MHz, in 4 DIMM slots
- Supports up to 128GB of DDR5 UDIMM with speeds of up to 4400MT/s with one DIMM, or 4000MT/s with two DIMM single rank, or 3600MT/s with two DIMM dual rank in four memory slots

**Expansion Slots**
- 1 PCIe 5.0 x16, 1 PCIe 4.0 x4 (in x8 slot), 1 PCIe 3.0 x4, 1 PCIe 3.0 x2 (in x4 slot), 1 PCIe 4.0 x4 SlimSAS
- M.2 Interface: 1 PCIe 4.0 x4
- Form Factor: 2280/22110
- M.2 Key: M-Key

**Onboard RAID Controller**
- Intel Q670E controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10

**Onboard LAN**
- Dual LAN with Intel® Ethernet i225LM

**Onboard VGA**
- 1 VGA port(s), 1 DVI - D port(s), 1 DP 1.4a port(s), 1 HDMI 2.0b port(s)

**USB Ports**
- 2 USB 2 port(s) (2 via header)
- 6 USB 3.2 Gen2 port(s) (2 via header; 2 rear Type A)
- 2 USB 3.2 Gen1 port(s) (2 via header)

**Other Onboard I/O Devices**
- ALC 8885 HD Audio
- SuperDoctor® 5, AMT, vPro
- Manageability
- PC Health Monitoring
- 6 COM Port(s) (2 header; 4 header)
- TPM Header & Chip both
- Other Features
- RoHS, M.2 NGFF connector, Chassis intrusion detection, ATX Power connector, ACPI power management
- BIOS
- AMI UEFI
### MODEL X13SAV-LVDS

**Processor**
- 13th/ 12th Generation Intel Core i9/Core i7/Core i5/Core i3/Pentium/Celeron Processor
- Single Socket LGA-1700 supported

**Chipset**
- Intel Q670E

**Form Factor**
- Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm)

**Memory Capacity & Slots**
- Up to 64GB Unbuffered non-ECC SODIMM, DDR4-3200MHz, in 2 DIMM slots

**Expansion Slots**
- 1 PCIe 5.0 x16 slots (16/NA or 8/8)
- M.2 Interface: 1 PCIe 4.0 x4; 1 CNVi/PCIe 3.0 x1/USB2
- Form Factor: 2280, 2230
- M.2 Key: M-Key, E-Key

**Onboard RAID Controller**
- Intel Q670E controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10; OCuLink Internal Port(s)

**Onboard LAN**
- Single LAN with Intel® Ethernet i225LM

**Onboard VGA**
- 1 HDMI 2.0b port(s), 2 DP (DisplayPort) port(s), 1 HDMI port(s), 1 LVDS port(s)
- 1 Intel® UHD Graphics port(s)
- 4 Independent Displays thru HDMI 2.0b/HDMI1.4/DP/LVDS

**USB Ports**
- 2 USB 2 port(s) (2 via header)
- 4 USB 3.2 Gen2 port(s) (4 rear type A)
- 2 USB 3.2 Gen1 port(s) (2 via header)

**Other Onboard I/O Devices**
- 1 COM Port(s) (1 header)
- TPM Header & Chip both
- ALC 8885 HD Audio

**Manageability**
- SuperDoctor® 5, AMT, vPro

**PC Health Monitoring**
- VBAT, System temperature, System level control, PCH temperature, HT, CPU temperature, Chipset Voltage, 3 -fan status, +3.3V, +1.8V, Monitors CPU Core Voltages

**Other Features**
- WOL, System level control, RoHS, M.2 NGFF connector, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12v DC power connector, 12V DC or ATX Power Source

**BIOS**
- AMI UEFI

### MODEL X13SAV-PS

**Processor**
- 12th Generation Intel ADL-PS CPU model i7-xxxxxUL(or HL), i5-xxxxxUL(or HL), i3-xxxxxUL(or HL), Celeron 7305L Processor
- Single Socket LGA-1700 supported

**Chipset**
- System on Chip

**Form Factor**
- Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm)

**Memory Capacity & Slots**
- Up to 64GB Unbuffered non-ECC SODIMM, DDR5-4800MHz, in 2 DIMM slots

**Expansion Slots**
- 1 PCIe 4.0 x4
- 1 PCIe 4.0 x4 NVMe
- M.2 Interface: 1 PCIe x1/USB2; 1 PCIe x2/USB3/USB2; 1 PCIe 4.0 x4
- Form Factor: 2230, 3052, 2280
- M.2 Key: E-Key, B-Key, M-Key

**Onboard RAID Controller**
- System on Chip controller for 2 SATA3 (6 Gbps) ports

**Onboard LAN**
- Single LAN with Intel® Ethernet Controller I210-AT

**Onboard VGA**
- 1 HDMI port(s), 1 DP (DisplayPort) port(s)
- 4 Independent Displays thru DP/HDMI/eDP/TYP C

**USB Ports**
- 2 USB 3.2 Gen2 port(s) (2 rear type C)
- 8 USB port(s) (4 via header; 4 rear type A)

**Other Onboard I/O Devices**
- 2 COM Port(s) (2 header RS232/422/485)

**Manageability**
- SuperDoctor® 5, AMT, vPro

**PC Health Monitoring**
- N/A

**Other Features**
- N/A

**BIOS**
- AMI UEFI
**X13 SAN**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X13SAN-C</th>
<th>X13SAN-L</th>
<th>X13SAN-E</th>
<th>X13SAN-H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® Celeron® Processor 7305E; up to 15W TDP Power</td>
<td>12th Generation Intel® Core™ i5-1245UE Processor; up to 15W TDP System on Chip</td>
<td>12th Generation Intel® Core™ i5-1245UE Processor; up to 15W TDP System on Chip</td>
<td>11th Generation Intel® Core™ i5-1265UE Processor; up to 15W TDP System on Chip</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
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<tr>
<td>Form Factor</td>
<td>3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
<td>3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
<td>3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
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<tr>
<td>Memory Capacity &amp; Form Factor</td>
<td>3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
<td>3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
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<td>3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® Ethernet Controller I225-IT</td>
<td>Dual LAN with Intel® Ethernet Controller I225-IT</td>
<td>Dual LAN with Intel® Ethernet Controller I225-IT</td>
<td>Dual LAN with Intel® Ethernet Controller I225-IT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>2x 2.5G, TSN, industrial grade</td>
<td>2x 2.5G, TSN, industrial grade</td>
<td>2x 2.5G, TSN, industrial grade</td>
<td>2x 2.5G, TSN, industrial grade</td>
</tr>
<tr>
<td>Onboard USB Ports</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
</tr>
<tr>
<td>Onboard I/O Devices</td>
<td>1 HD Audio header Mic-in/Headphone-out (Audio only support at 0~60°C)</td>
<td>1 HD Audio header Mic-in/Headphone-out (Audio only support at 0~60°C)</td>
<td>1 HD Audio header Mic-in/Headphone-out (Audio only support at 0~60°C)</td>
<td>1 HD Audio header Mic-in/Headphone-out (Audio only support at 0~60°C)</td>
</tr>
<tr>
<td>Manageability</td>
<td>-WIOUS: w/o Heatsink +12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VBAT</td>
<td>-WIOUS: w/o Heatsink +12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VBAT</td>
<td>-WIOUS: w/o Heatsink +12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VBAT</td>
<td>-WIOUS: w/o Heatsink +12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VBAT</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RohHS, System level control, WOL: 0°C to 60°C Operating Temperature 0°C to 70°C Operating Temperature (-WOHS)</td>
<td>8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RohHS, System level control, WOL: 0°C to 60°C Operating Temperature 0°C to 70°C Operating Temperature (-WOHS)</td>
<td>8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RohHS, System level control, WOL: 0°C to 60°C Operating Temperature 0°C to 70°C Operating Temperature (-WOHS)</td>
<td>8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RohHS, System level control, WOL: 0°C to 60°C Operating Temperature 0°C to 70°C Operating Temperature (-WOHS)</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
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<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>
## X12 UP Serverboards

**3rd Gen Intel® Xeon® Scalable processors Supported**

### MODEL

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<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Optimized Chassis</th>
<th>Memory Capacity &amp; Slots</th>
<th>Expansion Slots</th>
<th>Onboard RAID Controller</th>
<th>Onboard LAN</th>
<th>Onboard VGA</th>
<th>USB Ports</th>
<th>Other Onboard I/O Devices</th>
<th>Manageability</th>
<th>PC Health Monitoring</th>
<th>Other Features</th>
<th>BIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports, up to 270W TDP</td>
<td>Intel® C621A</td>
<td>ATX, 12” x 10” (30.48cm x 25.4cm)</td>
<td>813MF2TQC-505CB 813MF2TQC4-R407CB 116AC10-R860CB-N10</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz; Up to 2TB Intel® Optane™ Persistent Memory, in 8 DIMM slots</td>
<td>1 PCI-E 4.0 x16, 2 PCI-E 4.0 NVMe x8 Internal Port(s) M.2 Interface: 2 SATA/PCI-E 3.0 x4 M.2 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Dual LAN with Intel® i350 Gigabit Ethernet Controller</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers) 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>TPM Header 2 COM Ports (1 rear, 1 header)</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, RoT, UID, WOL</td>
<td>AMI UEFI</td>
</tr>
<tr>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports, up to 270W TDP</td>
<td>Intel® C621A</td>
<td>ATX, 12” x 10” (30.48cm x 25.4cm)</td>
<td>813MF2TQC-505CB 813MF2TQC4-R407CB 116AC10-R860CB-N10</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz; Up to 2TB Intel® Optane™ Persistent Memory, in 8 DIMM slots</td>
<td>1 PCI-E 4.0 x16, 5 PCI-E 4.0 NVMe x8 Internal Port(s) M.2 Interface: 2 SATA/PCI-E 3.0 x4 M.2 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Dual LAN with Intel® X550 10GBase-T Ethernet Controller</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers) 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>TPM Header 2 COM Ports (1 rear, 1 header)</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, RoT, UID, WOL</td>
<td>AMI UEFI</td>
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<td>MODEL</td>
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<tr>
<td>Processor</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
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<tr>
<td>Chipset</td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
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<tr>
<td>Form Factor</td>
<td>ATX, 12.1&quot; x 10&quot; (30.73cm x 25.4cm)</td>
<td>ATX, 12.1&quot; x 10&quot; (30.73cm x 25.4cm)</td>
<td>Proprietary WIO, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
<td>Proprietary WIO, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
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<tr>
<td>Optimized Chassis</td>
<td>831MF270C-505CB 813MF270C-505CB 813MF270C-505CB</td>
<td>813MF270C-505CB 813MF270C-505CB 813MF270C-505CB</td>
<td>81641TQ-R706W3B 815STQC-605W2B 815STQC-605W2B</td>
<td>81641TQ-R706W3B 815STQC-605W2B 815STQC-605W2B</td>
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<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 27B 3DS ECC RDIMM, DDR4-3200MHz, up to 2TB 3DS ECC RDIMM, DDR4-3200MHz</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz, up to 2TB 3DS ECC RDIMM, DDR4-3200MHz</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz, up to 2TB 3DS ECC RDIMM, DDR4-3200MHz</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz, up to 2TB 3DS ECC RDIMM, DDR4-3200MHz</td>
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<tr>
<td>Expansion Slots</td>
<td>2 PCI-E 4.0 x8, 1 PCI-E 4.0 x16, 1 PCI-E 4.0 x8 (in x16 slot), 3 PCI-E 3.0 x8</td>
<td>1 PCI-E 4.0 x16, 1 PCI-E 4.0 x8 (in x16 slot), 3 PCI-E 3.0 x8</td>
<td>1 PCI-E 4.0 x16 Right Riser Slot, 1 PCI-E 4.0 x16 Left Riser Slot, 4 PCI-E 4.0 NVMe x4 Internal Port(s)</td>
<td>1 PCI-E 4.0 x16 Right Riser Slot, 1 PCI-E 4.0 x16 Left Riser Slot, 4 PCI-E 4.0 NVMe x4 Internal Port(s)</td>
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<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers) 5 USB 3.2 Gen1 ports (2 rear + 2 via headers) + 1 Type A</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers) 5 USB 3.2 Gen1 ports (2 rear + 2 via headers) + 1 Type A</td>
<td>4 USB 2.0 ports (2 rear + 4 via headers) 5 USB 3.2 Gen1 ports (2 rear + 2 via headers) + 1 Type A</td>
<td>4 USB 2.0 ports (2 rear + 4 via headers) 5 USB 3.2 Gen1 ports (2 rear + 2 via headers) + 1 Type A</td>
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<tr>
<td>Other Onboard I/O Devices</td>
<td>TPM Header 1 COM Port (1 header)</td>
<td>TPM Header 1 COM Port (1 header)</td>
<td>2 ports SuperDOM 2 ports SuperDOM</td>
<td>2 ports SuperDOM 2 ports SuperDOM</td>
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<tr>
<td>Manageability</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SuperDoctor® 5, Watchdog</td>
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<tr>
<td>PC Health Monitoring</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
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<tr>
<td>Other Features</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHs, RoT, UID, WOL</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHs, RoT, UID, WOL</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, RoHS, UID, WOL</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, RoHS, UID, WOL</td>
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<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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</tbody>
</table>

**3rd Gen Intel® Xeon® Scalable processors Supported**
## X12 UP Serverboars

### MODEL
- **X12STW-TF**
- **X12STW-F**
- **X12TH-F**
- **X12TH-LN4F**
- **X12TH-SYS**
- **X12TL-F**
- **X12TL-IF**

### Processor
- 10th Generation Intel® Pentium® Processor, Intel® Xeon® E-2300 Rocket Lake Processor
- Single Socket LGA-1200 (Socket H5) supported, CPU TDP supports, up to 95W TDP

### Chipset
- Intel® C256

### Form Factor
- Proprietary WIO, 8" x 12" (20.32cm x 30.48cm)

### Memory Capacity & Slots
- Up to 128GB Unbuffered ECC UDIMM, DDR4-3200MHz, in 4 DIMM slots

### Expansion Slots
- 1 PCI-E 4.0 x16 Left Riser Slot
- 1 PCI-E 3.0 x4 (in x8, Right Riser slot)
- M.2 Form Factor: 2280/22110
- M.2 Key: M-Key
- Double Height Connector

### Onboard RAID Controller
- Intel® C256 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10

### Onboard LAN
- Dual LAN with Intel® X550 Ethernet Controller
- Dual LAN with Intel® 8251AT Gigabit Ethernet Controller

### Onboard VGA
- 1 VGA port, ASPEED AST2600 BMC

### USB Ports
- 6 USB 2.0 ports (2 rear + 4 via headers)
- 4 USB 3.2 Gen1 ports (2 rear + 2 via headers)
- 1 USB 3.2 Gen2 ports (1 Type A)

### Other Onboard I/O Devices
- TPM 2.0 Header
- 2 COM Ports (1 rear, 1 header)

### Manageability
- Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor® 5, Watchdog

### PC Health Monitoring
- ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL

### BIOS
- UEFI 256Mb

### Other Features
- ATX Power connector, Chassis intrusion header, Dual Cooling Zones, UID

### BIOS
- UEFI 256Mb

---

**Supported Models**

**X12STW-TF**

**X12STW-F**

**X12TH-F**

**X12TH-LN4F**

**X12TH-SYS**

**X12TL-F**

**X12TL-IF**

---

**Supported Features**

**PC Health Monitoring**

- ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL

**Other Features**

- ATX Power connector, Chassis intrusion header, Dual Cooling Zones, UID

---

**Supported Node Manager Support, UID, WOL**

**Node Manager Support, UID, WOL**

**Node Manager Support, UID, WOL**

**Node Manager Support, UID, WOL**

**Node Manager Support, UID, WOL**

**Node Manager Support, UID, WOL**

**Node Manager Support, UID, WOL**

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**Supported BIOS**

- UEFI 256Mb

---

**Supported Chipset**

- Intel® C256

---

**Supported Form Factor**

- WIO, 8" x 12" (20.32cm x 30.48cm)

---

**Supported Memory Capacity & Slots**

- Up to 128GB Unbuffered ECC UDIMM, DDR4-3200MHz, in 4 DIMM slots

---

**Supported Expansion Slots**

- 1 PCI-E 4.0 x16 Left Riser Slot
- 1 PCI-E 3.0 x4 (in x8, Right Riser slot)
- M.2 Form Factor: 2280/22110
- M.2 Key: M-Key
- Double Height Connector

---

**Supported Onboard RAID Controller**

- Intel® C256 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10

---

**Supported Onboard LAN**

- Dual LAN with Intel® X550 Ethernet Controller
- Dual LAN with Intel® 8251AT Gigabit Ethernet Controller

---

**Supported Onboard VGA**

- 1 VGA port, ASPEED AST2600 BMC

---

**Supported USB Ports**

- 6 USB 2.0 ports (2 rear + 4 via headers)
- 4 USB 3.2 Gen1 ports (2 rear + 2 via headers)
- 1 USB 3.2 Gen2 ports (1 Type A)

---

**Supported Other Onboard I/O Devices**

- TPM 2.0 Header
- 2 COM Ports (1 rear, 1 header)

---

**Supported Manageability**

- Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor® 5, Watchdog

---

**Supported PC Health Monitoring**

- ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL

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**Supported Other Features**

- ATX Power connector, Chassis intrusion header, Dual Cooling Zones, UID
<table>
<thead>
<tr>
<th>Model</th>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Optimized Chassis</th>
</tr>
</thead>
<tbody>
<tr>
<td>X12SPM-LN4F</td>
<td>3rd Gen Intel® Xeon® Scalable Processors; Single Socket LGA-4189 (Socket P+) supported, CPU TDP support up to 270W TDP</td>
<td>Intel® C621A</td>
<td>microATX</td>
<td>SC12LE1T-600LPB, SCLA26B1C-600LPB, SCLA25TQC-R802LPB, SC842TQC-668B</td>
</tr>
<tr>
<td>X12SPM-LN6TF</td>
<td>3rd Gen Intel® Xeon® Scalable Processors; Single Socket LGA-4189 (Socket P+) supported, CPU TDP support up to 270W TDP</td>
<td>Intel® C621A</td>
<td>microATX</td>
<td>SC12LE1T-600LPB, SCLA26B1C-600LPB, SCLA25TQC-R802LPB, SC842TQC-668B</td>
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<tr>
<td>X12SPM-TF</td>
<td>3rd Gen Intel® Xeon® Scalable Processors; Single Socket LGA-4189 (Socket P+) supported, CPU TDP support up to 270W TDP</td>
<td>Intel® C621A</td>
<td>microATX</td>
<td>SC12LE1T-600LPB, SCLA26B1C-600LPB, SCLA25TQC-R802LPB, SC842TQC-668B</td>
</tr>
<tr>
<td>X12SPI-TF</td>
<td>3rd Gen Intel® Xeon® Scalable Processors; Single Socket LGA-4189 (Socket P+) supported, CPU TDP support up to 270W TDP</td>
<td>Intel® C621A</td>
<td>microATX</td>
<td>SC12LE1T-600LPB, SCLA26B1C-600LPB, SCLA25TQC-R802LPB, SC842TQC-668B</td>
</tr>
</tbody>
</table>

### Memory Capacity & Slots
- Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz
- Up to 2TB Intel® Optane™ Persistent Memory 200 Series, in 8 DIMM slots

### Expansion Slots
- 1 PCI-E 4.0 x8, 2 PCI-E 4.0 x16, 4 PCI-E 4.0 NVMe x4 Internal Port(s)
- M.2 Interface: 1 SATA/PCC-E 3.0 x4
- M.2 Form Factor: 2280, 22110
- M.2 Key: M-Key

### Onboard RAID Controller
- Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10

### Onboard LAN
- Quad LAN with 1Gbe with Intel® i350-AM4 Dual LAN with 10Gbase-T with Intel® X550

### Onboard VGA
- 1 VGA port
- ASPEED AST2600 BMC

### USB Ports
- 6 USB 2.0 ports (2 rear + 4 via headers)
- 5 USB 3.2 Gen 1 ports (2 rear + 2 via headers + 1 Type A)

### Other Onboard I/O Devices
- 2 ports SuperDOM
- TPM Header
- 1 COM Port (1 header)

### Manageability
- Intel® Node Manager, IPMI 2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog
- +1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 5 -fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, VBAT

### PC Health Monitoring
- ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL
- +1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 5 -fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, VBAT

### Other Features
- ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL
- ACPI power management, ATX Power connector, Chassis intrusion detection, Dual Cooling Zones, NCSI header, RoHS, RoT, UID

### BIOS
- AMI UEFI
- AMI UEFI
- AMI UEFI
- AMI UEFI
**X12 UP Embedded**

**MODEL**

**X12STN-C**
**X12STN-E**
**X12STN-H**
**X12STN-L**
**X12STN-L-WOHS**

### Processor
- Intel® Celeron® Processor 6305E; up to 15W TDP
- Intel® 11th Generation Core™ i5-1135G7 Processor; up to 15W TDP
- Intel® 11th Generation Core™ i7-11950G Processor; up to 15W TDP
- Intel® 11th Generation Core™ i3-1115G4 Processor; up to 15W TDP

### Chipset
- Form Factor
  - 3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)

### Memory Capacity & Slots
- 3 M.2 slots: B-Key, M-Key, E-Key
  - M.2 2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCI-E Gen3 x1)
  - M.2 2230 E-Key (CNV/PCI-E 3.0 x1/USB2)
  - M.2 2242/2280 M-Key (PCI-E 4.0 x4), NVMe support

### Onboard RAID Controller
- N/A

### Onboard LAN
- Dual LAN with Intel® Ethernet Controller I225-IT
- 2.5G, TSN, industrial grade

### Onboard VGA
- 2 HDMI ports, 1 48-bit LVDS port, 1 DP (Alt mode) port
- Dual channel 48-bit LVDS max.
- Resolution up to 1920x2160@60Hz, 4096x2160@60Hz

### Onboard I/O Devices
- 4 USB 2.0 ports (2 via headers)
- 4 USB 3.2 Gen2 ports (3 Rear Type A + 1 Rear Type C)
- ALC 8885 HD Audio
- TPM 2.0 Chip
- 4 COM Ports (4 headers), (2 x RS232, 2 RS232/2242/485, RS-485 supports Auto flow control)
- 1 HD Audio header Mic-in/Headphone-out (Audio only support at 0~60C)
- 1 speaker out header with 3W amplifier
- 1 8-bit GPIO header
- 1 SMBus header
- 1 System Fan

### Manageability
- SuperDoctor® 5, Watchdog
- +12V, +3.3V, +5V, +12V (VIDMIM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VBAT

### PC Health Monitoring
- ALC 8885 HD Audio
- TPM 2.0 Chip
- 4 COM Ports (4 headers); (2 x RS232, 2 RS232/2242/485, RS-485 supports Auto flow control)
- 1 HD Audio header Mic-in/Headphone-out (Audio only support at 0~60C)
- 1 speaker out header with 3W amplifier
- 1 8-bit GPIO header
- 1 SMBus header
- 1 System Fan

### Other Features
- 8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support
- WOL:
  - 0°C to 60°C Operating Temperature (-C)
  - 0°C to 85°C Operating Temperature (-C-WOHS)

### BIOS
- AMI UEFI
### X12 UP Embedded

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X12SDV-20C-SPT8F</th>
<th>X12SDV-16C-SPT8F</th>
<th>X12SDV-14C-SPT8F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Xeon® Processor D-2796NT</td>
<td>Intel® Xeon® Processor D-2776TE</td>
<td>Intel® Xeon® Processor D-2766NT</td>
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<tr>
<td></td>
<td>Single Socket FCBGA-2579 supported, CPU TDP supports Up to 120W TDP</td>
<td>Single Socket FCBGA-2579 supported, CPU TDP supports Up to 100W TDP</td>
<td>Single Socket FCBGA-2579 supported, CPU TDP supports Up to 97W TDP</td>
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<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
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<tr>
<td><strong>Form Factor</strong></td>
<td>Micro-ATX, 7.5” x 8.5” (19.05cm x 21.59cm)</td>
<td>Micro-ATX, 7.5” x 8.5” (19.05cm x 21.59cm)</td>
<td>Micro-ATX, 7.5” x 8.5” (19.05cm x 21.59cm)</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 512GB ECC LRDIMM, DDR4-2933MHz; Up to 256GB ECC RDIMM, DDR4-2933MHz; Up to 512GB ECC/non-ECC, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 512GB ECC LRDIMM, DDR4-2933MHz; Up to 256GB ECC RDIMM, DDR4-2933MHz; Up to 512GB ECC/non-ECC, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 512GB ECC LRDIMM, DDR4-2933MHz; Up to 256GB ECC RDIMM, DDR4-2933MHz; Up to 512GB ECC/non-ECC, DDR4-2933MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 4.0 x16, 2 PCIe 4.0 x8, via SlimSAS, 1 PCIe 3.0 x4 NVMe OCuLink Internal Port(s) 2 PCIe 4.0 x8 NVMe SlimSAS Internal Port(s)</td>
<td>1 PCIe 4.0 x16, 2 PCIe 4.0 x8, via SlimSAS, 1 PCIe 3.0 x4 NVMe OCuLink Internal Port(s) 2 PCIe 4.0 x8 NVMe SlimSAS Internal Port(s)</td>
<td>1 PCIe 4.0 x16, 2 PCIe 4.0 x8, via SlimSAS, 1 PCIe 3.0 x4 NVMe OCuLink Internal Port(s) 2 PCIe 4.0 x8 NVMe SlimSAS Internal Port(s)</td>
</tr>
<tr>
<td><strong>Controller</strong></td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Onboard RAID</strong></td>
<td>Quad LAN with Intel® X550 10GbE Base-T Ethernet Controller</td>
<td>Dual LAN with Intel® X550 10GbE Base-T Ethernet Controller</td>
<td>Dual LAN with Intel® X550 10GbE Base-T Ethernet Controller</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2 port(s) (4 via header) 2 USB 3 port(s) (2 rear type A)</td>
<td>4 USB 2 port(s) (4 via header) 2 USB 3 port(s) (2 rear type A)</td>
<td>4 USB 2 port(s) (4 via header) 2 USB 3 port(s) (2 rear type A)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>1 COM Port(s) (1 header) 1 SATA DOM (Disk on Module) power connector support TPM 2 Header &amp; Chip both</td>
<td>1 COM Port(s) (1 header) 1 SATA DOM (Disk on Module) power connector support TPM 2 Header &amp; Chip both</td>
<td>1 COM Port(s) (1 header) 1 SATA DOM (Disk on Module) power connector support TPM 2 Header &amp; Chip both</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® v5, SMM, NMI, SUM, SPIM</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® v5, SMM, NMI, SUM, SPIM</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® v5, SMM, NMI, SUM, SPIM</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>3.3V standby, +5V standby, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
<td>3.3V standby, +5V standby, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
<td>3.3V standby, +5V standby, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>UDI, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology</td>
<td>UDI, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source</td>
<td>UDI, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI 32MB SPI Flash EEPROM</td>
<td>AMI 32MB SPI Flash EEPROM</td>
<td>AMI 32MB SPI Flash EEPROM</td>
</tr>
<tr>
<td><strong>MODEL</strong></td>
<td><strong>X12SDV-8C-SPT8F</strong></td>
<td><strong>X12SDV-4C-SPT8F</strong></td>
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<tr>
<td><strong>Processor</strong></td>
<td>Intel® Xeon® Processor D-2796NT Single Socket FCBGA-2579 supported, CPU TDP supports Up to 120W TDP</td>
<td>Intel® Xeon® Processor D-2712T Single Socket FCBGA-2579 supported, CPU TDP supports Up to 65W TDP</td>
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<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
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</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Micro-ATX, 7.5” x 8.5” (19.05cm x 21.59cm)</td>
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<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 512GB ECC LRDIMM, DDR4-2933MHz; Up to 256GB ECC RDIMM, DDR4-2933MHz; Up to 512GB ECC/non-ECC, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 512GB ECC LRDIMM, DDR4-2666MHz; Up to 256GB ECC RDIMM, DDR4-2666MHz; Up to 512GB ECC/non-ECC, DDR4-2666MHz, in 4 DIMM slots</td>
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<tr>
<td><strong>Expansion Slots</strong></td>
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<td>1 PCIe 4.0 x16, 1 PCIe 3.0 x4 (or 4x SATA), via Oculink, 2 PCIe 4.0 x8, via SlimSAS 1 PCIe 3.0 x4 NVMe OCuLink Internal Port(s) 2 PCIe 4.0 x8 NVMe SlimSAS Internal Port(s) <strong>M.2 Interface:</strong> 1 SATA/PCIe 3.0 x4 <strong>Form Factor:</strong> 2242/2280 <strong>M.2 Key:</strong> M-Key</td>
<td>1 PCIe 4.0 x16, 1 PCIe 3.0 x4 (or 4x SATA), via Oculink, 2 PCIe 4.0 x8, via SlimSAS 1 PCIe 3.0 x4 NVMe OCuLink Internal Port(s) 2 PCIe 4.0 x8 NVMe SlimSAS Internal Port(s) <strong>M.2 Interface:</strong> 1 SATA/PCIe 3.0 x4 <strong>Form Factor:</strong> 2242/2280 <strong>M.2 Key:</strong> M-Key</td>
<td></td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports; RAID 0,1 4 SATA ports via OCuLink (or PCIe3.0 x4 for NVMe)</td>
<td>SoC controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10 4 SATA ports via OCuLink (or PCIe3.0 x4 for NVMe)</td>
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<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with 25G SFP28 LAN via SoC Dual LAN with Intel® X550 10GBase-T Ethernet Controller Quad LAN with Intel® 1350 Gigabit Ethernet Controller</td>
<td>Dual LAN with 25G SFP28 LAN via SoC Dual LAN with Intel® X550 10GBase-T Ethernet Controller Quad LAN with Intel® 1350 Gigabit Ethernet Controller</td>
<td></td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
<td></td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2 port(s) (4 via header) 2 USB 3 port(s) (2 rear type A)</td>
<td>4 USB 2 port(s) (4 via header) 2 USB 3 port(s) (2 rear type A)</td>
<td></td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>1 COM Port(s) (1 header) 1 SATA DOM (Disk on Module) power connector support TPM 2 Header &amp; Chip both</td>
<td>1 COM Port(s) (1 header) 1 SATA DOM (Disk on Module) power connector support TPM 2 Header &amp; Chip both</td>
<td></td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® S, SSM, NMI, SUM, SPM</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® S, SSM, NMI, SUM, SPM</td>
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</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>3.3V standby, +5V standby, +5V, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
<td>3.3V standby, +5V standby, +5V, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
<td></td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source</td>
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<tr>
<td><strong>BIOS</strong></td>
<td>AMI 32MB SPI Flash EEPROM</td>
<td>AMI 32MB SPI Flash EEPROM</td>
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**X12 UP Embedded**

*Extended working temperature support*

### MODEL

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<tr>
<th>MODEL</th>
<th>X12SDV-10C-SP6F</th>
<th>X12SDV-8C-SP6F</th>
<th>X12SDV-8CE-SP4F</th>
<th>X12SDV-4C-SP6F</th>
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<tr>
<td>Processor</td>
<td>Intel® Xeon® Processor D-1747NTE, Single Socket FCBGA-2227 supported, CPU TDP supports Up to 80W TDP</td>
<td>Intel® Xeon® Processor D-1736NT, Single Socket FCBGA-2227 supported, CPU TDP supports Up to 67W TDP</td>
<td>Intel® Xeon® Processor D-1732TE, Single Socket FCBGA-2227 supported, CPU TDP supports Up to 52W TDP</td>
<td>Intel® Xeon® Processor D-1718T, Single Socket FCBGA-2227 supported, CPU TDP supports Up to 46W TDP</td>
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<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>FlexATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
<td>FlexATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
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<td>FlexATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
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<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 256GB ECC RDIMM, DDR4-2933MHz; in 4 DIMM slots</td>
<td>Up to 256GB ECC RDIMM, DDR4-2666MHz; up to 256GB ECC/non-ECC, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 256GB ECC RDIMM, DDR4-2666MHz; up to 256GB ECC/non-ECC, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 256GB ECC RDIMM, DDR4-2666MHz; up to 256GB ECC/non-ECC, DDR4-2933MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td><strong>M.2 Interface</strong>: 1 SATA/PCIe 3.0 x4; 1 USB3.0/5ATA3.0/PCIe 3.0 x2; 1 PCI 3.0 x1</td>
<td><strong>M.2 Interface</strong>: 1 SATA/PCIe 3.0 x4; 1 USB3.0/5ATA3.0/PCIe 3.0 x2; 1 PCI 3.0 x1</td>
<td><strong>M.2 Interface</strong>: 1 SATA/PCIe 3.0 x4; 1 USB3.0/5ATA3.0/PCIe 3.0 x2; 1 PCI 3.0 x1</td>
<td><strong>M.2 Interface</strong>: 1 SATA/PCIe 3.0 x4; 1 USB3.0/5ATA3.0/PCIe 3.0 x2; 1 PCI 3.0 x1</td>
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<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,6</td>
<td>SoC controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,6</td>
<td>SoC controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,6</td>
<td>SoC controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,6</td>
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<tr>
<td>Onboard LAN</td>
<td>Dual LAN with 25G SFP28 LAN via SoC Dual LAN with 1GE LAN via Intel® i350-AM2</td>
<td>Dual LAN with 25G SFP28 LAN via SoC Dual LAN with 1GE LAN via Intel® i350-AM2</td>
<td>Dual LAN with 25G SFP28 LAN via SoC Dual LAN with 1GE LAN via Intel® i350-AM2</td>
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<td>Onboard VGA</td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
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<td>USB Ports</td>
<td>4 USB 2 port(s) (4 via header) 2 USB 3 port(s) (2 rear type A)</td>
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<td>4 USB 2 port(s) (4 via header) 2 USB 3 port(s) (2 rear type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 COM Port(s) (1 header)</td>
<td>1 SATA DOM (Disk on Module) power connector support TPM 2 Header &amp; Chip both</td>
<td>1 COM Port(s) (1 header)</td>
<td>1 SATA DOM (Disk on Module) power connector support TPM 2 Header &amp; Chip both</td>
</tr>
<tr>
<td>Manageability</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, SSM, NMI, SUM, SPM</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, SSM, NMI, SUM, SPM</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, SSM, NMI, SUM, SPM</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, SSM, NMI, SUM, SPM</td>
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<tr>
<td>PC Health Monitoring</td>
<td>3.3V standby, +5V standby, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
<td>3.3V standby, +5V standby, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
<td>3.3V standby, +5V standby, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
<td>3.3V standby, +5V standby, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
</tr>
<tr>
<td>Other Features</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, DC or ATX Power Source, Intel® QuickAssist Technology</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, DC or ATX Power Source, Intel® QuickAssist Technology</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, DC or ATX Power Source, Intel® QuickAssist Technology</td>
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<tr>
<td>BIOS</td>
<td>AMI 32MB SPI Flash EEPROM</td>
<td>AMI 32MB SPI Flash EEPROM</td>
<td>AMI 32MB SPI Flash EEPROM</td>
<td>AMI 32MB SPI Flash EEPROM</td>
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<tr>
<td>MODEL</td>
<td>X12SDV-10C-SPT4F</td>
<td>X12SDV-8C-SPT4F</td>
<td>X12SDV-4C-SPT4F</td>
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<tr>
<td>Processor</td>
<td>Intel® Xeon® Processor D-1749NT Single Socket FCBGA-2227 supported, CPU TDP supports Up to 90W TDP</td>
<td>Intel® Xeon® Processor D-1736NT Single Socket FCBGA-2227 supported, CPU TDP supports Up to 67W TDP</td>
<td>Intel® Xeon® Processor D-1718T Single Socket FCBGA-2227 supported, CPU TDP supports Up to 46W TDP</td>
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<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
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<tr>
<td>Form Factor</td>
<td>Mini-ITX, 6.8&quot; x 6.6&quot; (17.15cm x 17.15cm)</td>
<td>Mini-ITX, 6.8&quot; x 6.6&quot; (17.15cm x 17.15cm)</td>
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<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 128GB ECC RDIMM, DDR4-2666MHz; Up to 128GB ECC/non-ECC, DDR4-2666MHz, in 2 DIMM slots</td>
<td>Up to 128GB ECC RDIMM, DDR4-2666MHz; Up to 128GB ECC/non-ECC, DDR4-2666MHz, in 2 DIMM slots</td>
<td>Up to 128GB ECC RDIMM, DDR4-2933MHz; Up to 128GB ECC/non-ECC, DDR4-2933MHz, in 2 DIMM slots</td>
<td></td>
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<tr>
<td>Expansion Slots</td>
<td>1 PCIe 4.0 x8, 1 PCIe 3.0 x4 (or 4x SATA), via OcuLink</td>
<td>1 PCIe 4.0 x8, 1 PCIe 3.0 x4 (or 4x SATA), via OcuLink</td>
<td>1 PCIe 4.0 x8, 1 PCIe 3.0 x4 (or 4x SATA), via OcuLink</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M.2 Interface: 1 SATA/PCIe 4.0 x4</td>
<td>M.2 Interface: 1 SATA/PCIe 4.0 x4</td>
<td>M.2 Interface: 1 SATA/PCIe 4.0 x4</td>
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<td>Form Factor: 2280</td>
<td>Form Factor: 2280</td>
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<td>M.2 Key: M-Key</td>
<td>M.2 Key: M-Key</td>
<td>M.2 Key: M-Key</td>
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</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
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<tr>
<td>Onboard LAN</td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
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<tr>
<td>Onboard VGA</td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
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<tr>
<td>USB Ports</td>
<td>2 USB 2 port(s) (2 via header) 2 USB 3 port(s) (2 rear type A)</td>
<td>2 USB 2 port(s) (2 via header) 2 USB 3 port(s) (2 rear type A)</td>
<td>2 USB 2 port(s) (2 via header) 2 USB 3 port(s) (2 rear type A)</td>
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</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 COM Port(s) (1 header) TPM 2 Header &amp; Chip both</td>
<td>1 COM Port(s) (1 header) TPM 2 Header &amp; Chip both</td>
<td>1 COM Port(s) (1 header) TPM 2 Header &amp; Chip both</td>
<td></td>
</tr>
<tr>
<td>Manageability</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, SSM, NM, SUM, SP</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, SSM, NM, SUM, SP</td>
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<td>PC Health Monitoring</td>
<td>3.3V standby, +5V standby, +5V, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
<td>3.3V standby, +5V standby, +5V, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
<td>3.3V standby, +5V standby, +5V, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
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</tr>
<tr>
<td>Other Features</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology</td>
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<tr>
<td>BIOS</td>
<td>AMI 32MB SPI Flash EEPROM</td>
<td>AMI 32MB SPI Flash EEPROM</td>
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## X12 UP Embedded

### 3rd Gen Intel® Xeon® Scalable processors Supported

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<tr>
<th>MODEL</th>
<th>X12SCQ</th>
<th>X12SCV-LVDs</th>
<th>X12SCV-W</th>
<th>X12SPZ-LN4F</th>
<th>X12SPZ-SPLN6F</th>
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<tr>
<td>Processor</td>
<td>11th/10th Generation Intel® Core™ i9/i7/i5/i3 Processors Single Socket LGA-1200 (Socket H) supported, CPU TDP supports up to 125W TDP</td>
<td>11th/10th Generation Intel® Core™ i9/i7/i5/i3 Processors Single Socket LGA-1200 (Socket H) supported, CPU TDP supports up to 65W TDP</td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P) supported, CPU TDP supports up to 270W TDP</td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P) supported, CPU TDP supports up to 270W TDP</td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P) supported, CPU TDP supports up to 270W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® Q470E microATX, 9.6” x 9.6” (24.38 cm x 24.38 cm)</td>
<td>Intel® W480E Mini-ITX, 6.7” x 6.7” (17.02 cm x 17.02 cm)</td>
<td>Intel® C621A Micro-ATX, 9.6” x 9.6” (24.38 cm x 24.38 cm)</td>
<td>Intel® C621A Micro-ATX, 9.6” x 9.6” (24.38 cm x 24.38 cm)</td>
<td>Intel® C621A Micro-ATX, 9.6” x 9.6” (24.38 cm x 24.38 cm)</td>
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<tr>
<td>Form Factor</td>
<td>Intel X12 UP Embedded, High Performance vPro AMT</td>
<td>High Performance vPro AMT</td>
<td>High Performance vPro AMT</td>
<td>High Performance vPro AMT</td>
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<td>Optimization</td>
<td>Memory Capacity &amp; Slots</td>
<td>Memory Capacity &amp; Slots</td>
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<td>Up to 128GB Unbuffered non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 64GB DDR4 ECC/non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots</td>
<td>Up to 64GB DDR4 ECC/non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots</td>
<td>Up to 64GB DDR4 ECC/non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots</td>
<td>Up to 64GB DDR4 ECC/non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots</td>
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<td>Onboard RAID Controller</td>
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<td>Intel® Q470E controller for 6 RAID 0,1,5,10</td>
<td>Intel® W480E controller for 2 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® W480E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C621A controller for 6 SATA3 (6 Gbps) ports; 4 SATA ports via OCuLink; RAID 0,1,5,10</td>
<td>Intel® C621A controller for 6 SATA3 (6 Gbps) ports; 4 SATA ports via OCuLink; RAID 0,1,5,10</td>
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<td>Onboard LAN</td>
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<td>Single LAN with Intel® PHY i219LM LAN controller Single LAN with Intel® Ethernet Controller i210-AT</td>
<td>Single LAN with Intel® Ethernet Controller i219LM</td>
<td>Single LAN with Intel® Ethernet Controller i210-AT</td>
<td>Quad LAN with 1GBE with Intel® I350-AM4</td>
<td>Quad LAN with 1GBE with Intel® I350-AM4</td>
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<td>Onboard VGA</td>
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<td>1 VGA port, 1 HDMI port, 1 DP (DisplayPort port), 1 DVI - D port, Intel® HD Graphics</td>
<td>1 USB 2.0 port (4 via headers)</td>
<td>1 USB 2.0 port (4 via headers)</td>
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<td>ACPI power management, ATX Power connector, Chassis intrusion detection, M-2 NGFF connector, RoHS</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, M-2 NGFF connector, RoHS</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, M-2 NGFF connector, RoHS</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, M-2 NGFF connector, RoHS</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, M-2 NGFF connector, RoHS</td>
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<tr>
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<td>BIOS</td>
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<tr>
<td></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>
### X12 UP Embedded

**Processor**
- **Model**: Intel® Xeon® W-1200 Processors, 11th/10th Generation Intel® Core™ i9/i7/i5/i3 Processors
- **Form Factor**: Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)
- **Memory**: DDR4-2933MHz, in 4 DIMM slots
- **Expansion Slots**:
  - 1 PCie 3.0 x4
  - 1 PCie 3.0 x16
  - 1 PCie 3.0 x16 (in x8 slot)
  - 1 M.2 Interface: 1 M.2 Key, 1 E-Key
  - 1 Form Factor: 2280/22110, 2230
  - 1 M.2 Key: M-Key, E-Key

**Chipset**
- **Model**: Intel® W480E

**Form Factor**
- **Micro-ATX**: 9.6" x 9.6" (24.38cm x 24.38cm)

**Optimized Chassis**
- **510FT-203B**
- **510FT-203B**
- **510FT-203B**

**Memory Capacity & Slots**
- **Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots**

**Expansion Slots**
- **6 USB 2.0 port(s)** (6 via headers)
- **6 USB 3.2 Gen2 port(s)** (4 Rear Type A, 2 via headers)

**Onboard RAID Controller**
- **Intel® W480E controller for 4 SATA3 (6 Gbps) ports**; RAID 0,1,5,10
- **Intel® W480E controller for 4 SATA3 (6 Gbps) ports**; RAID 0,1,5,10
- **Intel® W480E controller for 4 SATA3 (6 Gbps) ports**; RAID 0,1,5,10

**Onboard LAN**
- **Single LAN with Intel® PHY I219LM LAN controller**
- **Intel® W480E controller**
- **Single LAN with Intel® Ethernet Controller I210-AT**

**Onboard VGA**
- **1 DVI - D port(s)**, 1 VGA D-Sub Connector port(s), 2 DP++(Dual-Mode DisplayPort) port(s)
- **Intel® HD Graphics port(s)**
- **1 ASPEED AST2500 BMC port(s)**

**USB Ports**
- **6 USB 3.2 Gen2 port(s)** (4 rear type A; 2 via header)
- **6 USB 2.0 port(s)** (6 via header)

**Other Onboard I/O Devices**
- **1 COM Port(s) (1 header)**
- **1 SATA DOM (Disk on Module) power connector support**
- **TPM Header & Chip both**

**Management**
- **SuperDoctor® 5, SUM, AMT, vPro, Watchdog, IPMI (Intelligent Platform Management Interface)**
- **AMT, IPMI (Intelligent Platform Management Interface)**

**PC Health Monitoring**
- **VBAT, PCH temperature, Memory temperature, CPU, Chassis intrusion header, 5 -fan status, 1.2V (VDIMM), 1.05 (PCH), +5V standby, +5V, +3.3V, +12V**
- **VBAT, Memory, CPU, Chassis intrusion header, 5 -fan status, 1.2V (VDIMM), 1.05 (PCH), +5V standby, +5V, +3.3V, +12V**

**Other Features**
- **UID, RoHS, M.2 NGFF connector, Dual Cooling Zones, Chassis intrusion detection, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source**
- **UID, RoHS, M.2 NGFF connector, Dual Cooling Zones, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source**
- **12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power connector, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, M.2 NGFF connector, RoHS, UID**

**BIOS**
- **AMI UEFI**

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**5G/E dge/IoT/Embedded Building Block Solutions - May 2023**

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**X12SCZ-TLN4F**

**X12SCZ-QF**

**X12SCZ-F**
## X11 UP Serverboard

### Most Popular Entry-Class

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Expansion Slots</th>
<th>Onboard RAID Controller</th>
<th>Onboard LAN</th>
<th>Onboard VGA</th>
<th>USB Ports</th>
<th>Other Onboard I/O Devices</th>
<th>Manageability</th>
<th>PC Health Monitoring</th>
<th>Other Features</th>
<th>BIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SCW-F</td>
<td>8th/9th Generation Intel® Core™ i3/ Pentium®/CELERON® Processor, Intel® Xeon® E-2200 Processor</td>
<td>Intel® C246</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>1 PCI-E 3.0 x4, 1 M.2 Key, M.2 Form Factor: 2280/22110</td>
<td>Intel® C242 controller for 6 SATA3 (6 Gbps) ports; RAID 1,1,5,10</td>
<td>Dual LAN with 1GBe with Intel® I210</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>TPM 2.0 Header, 2 COM Ports (1 rear, 1 header)</td>
<td>IPMI2.0, KVM with dedicated LAN, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>+12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL</td>
<td>UEFI 256Mb</td>
</tr>
<tr>
<td>X11SCW-L</td>
<td>8th/9th Generation Intel® Core™ i3/ Pentium®/CELERON® Processor, Intel® Xeon® E-2200 Processor</td>
<td>Intel® C246</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>1 PCI-E 3.0 x4, 1 M.2 Form Factor: 2280/22110</td>
<td>Intel® C242 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Dual LAN with 1GBe with Intel® I210</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>4 USB 2.0 ports (2 rear + 2 via headers)</td>
<td>TPM 2.0 Header, 2 COM Ports (1 rear, 1 header)</td>
<td>IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>+12V, +3.3V, +5V, +5V standby, 8-fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL</td>
<td>UEFI 256Mb</td>
</tr>
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</table>

### Cost-optimized Micro Serverboard

<table>
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<tr>
<th>MODEL</th>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Expansion Slots</th>
<th>Onboard RAID Controller</th>
<th>Onboard LAN</th>
<th>Onboard VGA</th>
<th>USB Ports</th>
<th>Other Onboard I/O Devices</th>
<th>Manageability</th>
<th>PC Health Monitoring</th>
<th>Other Features</th>
<th>BIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SCL-F</td>
<td>8th/9th Generation Intel® Core™ i3/ Pentium®/CELERON® Processor, Intel® Xeon® E-2200 Processor</td>
<td>Intel® C242</td>
<td>MicroATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>1 PCI-E 3.0 x4, 1 M.2 Key, M.2 Form Factor: 2280/22110</td>
<td>Intel® C242 controller for 6 SATA3 (6 Gbps) ports; RAID 1,1,5,10</td>
<td>Dual LAN with 1GBe with Intel® I210</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>TPM 2.0 Header, 2 COM Ports (1 rear, 1 header)</td>
<td>IPMI2.0, KVM with dedicated LAN, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>+12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL</td>
<td>UEFI 256Mb</td>
</tr>
<tr>
<td>X11SCL-IF</td>
<td>8th/9th Generation Intel® Core™ i3/ Pentium®/CELERON® Processor, Intel® Xeon® E-2200 Processor</td>
<td>Intel® C242</td>
<td>MicroATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>1 PCI-E 3.0 x4, 1 M.2 Form Factor: 2280/22110</td>
<td>Intel® C242 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Dual LAN with 1GBe with Intel® I210</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>4 USB 2.0 ports (2 rear + 2 via headers)</td>
<td>TPM 2.0 Header, 2 COM Ports (1 rear, 1 header)</td>
<td>IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>+12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL</td>
<td>UEFI 256Mb</td>
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### 1U-Optimized Quad LAN

<table>
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<tr>
<th>MODEL</th>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Expansion Slots</th>
<th>Onboard RAID Controller</th>
<th>Onboard LAN</th>
<th>Onboard VGA</th>
<th>USB Ports</th>
<th>Other Onboard I/O Devices</th>
<th>Manageability</th>
<th>PC Health Monitoring</th>
<th>Other Features</th>
<th>BIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SCL-LN4F</td>
<td>8th/9th Generation Intel® Core™ i3/ Pentium®/CELERON® Processor, Intel® Xeon® E-2200 Processor</td>
<td>Intel® C242</td>
<td>MicroATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>1 PCI-E 3.0 x4, 1 M.2 Form Factor: 2280/22110</td>
<td>Intel® C242 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Dual LAN with 1GBe with Intel® I210</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>TPM 2.0 Header, 2 COM Ports (1 rear, 1 header)</td>
<td>IPMI2.0, KVM with dedicated LAN, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>+12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL</td>
<td>UEFI 256Mb</td>
</tr>
<tr>
<td>X11SCL-LN4F</td>
<td>8th/9th Generation Intel® Core™ i3/ Pentium®/CELERON® Processor, Intel® Xeon® E-2200 Processor</td>
<td>Intel® C242</td>
<td>MicroATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>1 PCI-E 3.0 x4, 1 M.2 Form Factor: 2280/22110</td>
<td>Intel® C242 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Dual LAN with 1GBe with Intel® I210</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>4 USB 2.0 ports (2 rear + 2 via headers)</td>
<td>TPM 2.0 Header, 2 COM Ports (1 rear, 1 header)</td>
<td>IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>+12V, +3.3V, +5V, +5V standby, 5-fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL</td>
<td>UEFI 256Mb</td>
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### WIO

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<tr>
<th>MODEL</th>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Expansion Slots</th>
<th>Onboard RAID Controller</th>
<th>Onboard LAN</th>
<th>Onboard VGA</th>
<th>USB Ports</th>
<th>Other Onboard I/O Devices</th>
<th>Manageability</th>
<th>PC Health Monitoring</th>
<th>Other Features</th>
<th>BIOS</th>
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</thead>
<tbody>
<tr>
<td>X11SCL-W</td>
<td>8th/9th Generation Intel® Core™ i3/ Pentium®/CELERON® Processor, Intel® Xeon® E-2200 Processor</td>
<td>Intel® C242</td>
<td>MicroATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>1 PCI-E 3.0 x4, 1 M.2 Form Factor: 2280/22110</td>
<td>Intel® C242 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Dual LAN with 1GBe with Intel® I210</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>TPM 2.0 Header, 2 COM Ports (1 rear, 1 header)</td>
<td>IPMI2.0, KVM with dedicated LAN, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>+12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, UID, WOL</td>
<td>UEFI 256Mb</td>
</tr>
</tbody>
</table>

*For detailed memory configurations please refer to Supermicro website.** For integration into SuperServer® systems only, not available for sale as subsystems.
## X11 UP Serverboards

### MODEL

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<tr>
<th>MODEL</th>
<th>X11SCH-F</th>
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<th>X11SCM-F</th>
<th>X11SCM-LN8F</th>
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<tr>
<td>Chipset</td>
<td>Intel® C246</td>
<td>Intel® C246</td>
<td>Intel® C246</td>
<td>Intel® C246</td>
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<tr>
<td>Form Factor</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 128GB ECC, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB ECC, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8</td>
<td>1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8</td>
<td>1 PCIe 3.0 x16</td>
<td>1 PCIe 3.0 x16</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10 Quad Lan with Intel® Ethernet Controller I210</td>
<td>Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10 Quad Lan with Intel® Ethernet Controller I210</td>
<td>Intel® C246 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10 Dual Lan with Intel® Ethernet Controller I210-AT</td>
<td>Intel® C246 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10 Dual Lan with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>1 VGA port(s)</td>
<td>1 VGA port(s)</td>
<td>1 VGA port(s)</td>
<td>1 VGA port(s)</td>
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<tr>
<td>Onboard VGA</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
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<tr>
<td>Other Onboard I/O Devices</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
</tr>
<tr>
<td>Manageability</td>
<td>SuperDoctor® 5, NMI, SUM, SP, Intel® Node Manager, SSM, IPMI2.0, Watchdog VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6-fan status, +3.3V, +12V, Memory Voltages</td>
<td>SuperDoctor® 5, NMI, SUM, SP, Intel® Node Manager, SSM, IPMI2.0, Watchdog VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6-fan status, +3.3V, +12V, Memory Voltages</td>
<td>SuperDoctor® 5, NMI, SUM, SP, Intel® Node Manager, SSM, IPMI2.0, Watchdog VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6-fan status, +3.3V, +12V, Memory Voltages</td>
<td>SuperDoctor® 5, NMI, SUM, SP, Intel® Node Manager, SSM, IPMI2.0, Watchdog VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6-fan status, +3.3V, +12V, Memory Voltages</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
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<tr>
<td>Thermal Control</td>
<td>Fan speed control</td>
<td>Fan speed control</td>
<td>Fan speed control</td>
<td>Fan speed control</td>
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<td>Overheat LED indication</td>
<td>Overheat LED indication</td>
<td>Overheat LED indication</td>
<td>Overheat LED indication</td>
<td>Overheat LED indication</td>
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<tr>
<td>Other Features</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, CPU thermal trip support for processor protection, Control of power-on for recovery from AC power loss, Chassis intrusion header, Chassis intrusion detection, ACPI power management</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, CPU thermal trip support for processor protection, Control of power-on for recovery from AC power loss, Chassis intrusion header, Chassis intrusion detection, ACPI power management</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, CPU thermal trip support for processor protection, Control of power-on for recovery from AC power loss, Chassis intrusion header, Chassis intrusion detection, ACPI power management</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, CPU thermal trip support for processor protection, Control of power-on for recovery from AC power loss, Chassis intrusion header, Chassis intrusion detection, ACPI power management</td>
</tr>
<tr>
<td>BIOS</td>
<td>256MB UEFI</td>
<td>256MB UEFI</td>
<td>256MB UEFI</td>
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</tbody>
</table>

*For detailed memory configurations please refer to Supermicro website.

**For integration into SuperServer systems only, not available for sale as subsystems.
## X11 UP Serverboards

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<thead>
<tr>
<th>MODEL</th>
<th>X11SCA</th>
<th>X11SCA-F</th>
<th>X11SCA-W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>8th/9th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor, Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP</td>
<td>8th/9th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor, Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP</td>
<td>8th/9th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor, Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C246</td>
<td>Intel® C246</td>
<td>Intel® C246</td>
</tr>
<tr>
<td>Form Factor</td>
<td>ATX, 12&quot; x 9.6&quot; (30.48cm x 23.48cm)</td>
<td>ATX, 12&quot; x 9.6&quot; (30.48cm x 23.48cm)</td>
<td>ATX, 12&quot; x 9.6&quot; (30.48cm x 23.48cm)</td>
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<tr>
<td>Optimized Chassis</td>
<td>SC7210D2-5008, SC7210D2-9038, SC7210D2-12008, SC7G5SA-753K, SC7G6SA-753B</td>
<td>SC7210D2-5008, SC7210D2-9038, SC7210D2-12008, SC7G5SA-753K, SC7G6SA-753B</td>
<td>SC7210D2-5008, SC7210D2-9038, SC7210D2-12008, SC7G5SA-753K, SC7G6SA-753B</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>U.2 Interface</td>
<td>1 PCI-E 3.0 x4</td>
<td>1 PCI-E 3.0 x4</td>
<td>1 PCI-E 3.0 x4</td>
</tr>
<tr>
<td>M.2 Interface</td>
<td>1 - 5V PCI 32bit</td>
<td>1 - 5V PCI 32bit</td>
<td>1 - 5V PCI 32bit</td>
</tr>
<tr>
<td>M.2 Form Factor &amp; Key</td>
<td>2 PCI-E 3.0 x4</td>
<td>2 PCI-E 3.0 x4</td>
<td>2 PCI-E 3.0 x4</td>
</tr>
<tr>
<td>M.2 Key</td>
<td>M-Key</td>
<td>M-Key</td>
<td>M-Key</td>
</tr>
<tr>
<td>M.2 Key Sharing</td>
<td>M.2#1 is shared with PCI-Ex4 slot, M.2#2 is shared with U.2</td>
<td>M.2#1 is shared with PCI-Ex4 slot, M.2#2 is shared with U.2</td>
<td>M.2#1 is shared with PCI-Ex4 slot, M.2#2 is shared with U.2</td>
</tr>
<tr>
<td>RAID Controller</td>
<td>Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>LAN Controller</td>
<td>Single LAN with Intel® Ethernet Controller I210-AT</td>
<td>Single LAN with Intel® Ethernet Controller I210-AT</td>
<td>Single LAN with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 HDMI port, 1 DVI - D port, 1 DP (DisplayPort) port, Intel® UHD P630 graphic(Graph for CPU Xeon® E-21XXG/E-22XXG series only), ASPEED AST2500 BMC</td>
<td>1 HDMI port, 1 DVI - D port, 1 DP (DisplayPort) port, 1 VGA port, Intel® UHD P630 graphic(Graph for CPU Xeon® E-21XXG/E-22XXG series only), ASPEED AST2500 BMC</td>
<td>1 HDMI port, 1 DVI - D port, 1 DP (DisplayPort) port, 1 VGA port, Intel® UHD P630 graphic(Graph for CPU Xeon® E-21XXG/E-22XXG series only), ASPEED AST2500 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 2.0 ports (2 via headers)</td>
<td>2 USB 2.0 ports (2 via headers)</td>
<td>2 USB 2.0 ports (2 via headers)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 COM Port (1 header)</td>
<td>1 COM Port (1 header)</td>
<td>1 COM Port (1 header)</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.8V, 12V, +3.3V, +5V, +5V standby, 5 -fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, VBAT</td>
<td>+1.8V, 12V, +3.3V, +5V, +5V standby, 5 -fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, VBAT</td>
<td>+1.8V, 12V, +3.3V, +5V, +5V standby, 5 -fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, VBAT</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>5 fans with tachometer status monitoring</td>
<td>PWM fan speed control Low noise fan speed control Fan speed control 5 fans with tachometer status monitoring</td>
<td>PWM fan speed control Low noise fan speed control Fan speed control 5 fans with tachometer status monitoring</td>
</tr>
<tr>
<td>Other Features</td>
<td>8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, RoHS, WOL</td>
<td>8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, RoHS, WOL</td>
<td>8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, RoHS, WOL</td>
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<tr>
<td>BIOS</td>
<td>UEFI 128Mb</td>
<td>UEFI 128Mb</td>
<td>UEFI 128Mb</td>
</tr>
</tbody>
</table>

*For detailed memory configurations please refer to Supermicro website.

** For integration into SuperServer® systems only, not available for sale as subsystems.
## X11 UP Serverboards

### MODEL

<table>
<thead>
<tr>
<th>X11SRM-F</th>
<th>X11SRM-VF</th>
<th>X11SRL-F</th>
<th>X11Sri-IF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C422</td>
<td>Intel® C422</td>
<td>Intel® C422</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>ATX, 12” x 9.6” (30.48cm x 24.38cm)</td>
</tr>
<tr>
<td><strong>Optimized Chassis</strong></td>
<td>SNK-P0057PS</td>
<td>SNK-P0057PS</td>
<td>SNK-P0057PS</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots†</strong></td>
<td>Up to 256GB ECC RDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 256GB ECC RDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 512GB ECC RDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI-E 3.0 x16, 2 PCI-E 3.0 x8, M.2 Interface: 1 PCI-E 3.0 x4, M.2 Form Factor: 2280, M.2 Key: M-Key Double Height Connector</td>
<td>1 PCI-E 3.0 x16, 2 PCI-E 3.0 x8, 4 PCI-E 3.0 NVMe x4 Internal Port(s), M.2 Interface: 1 PCI-E 3.0 x4, M.2 Form Factor: 2280, M.2 Key: M-Key Double Height Connector</td>
<td>3 PCI-E 3.0 x8, 1 PCI-E 3.0 x16, 1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x4 (in x8 slot), M.2 Interface: 1 PCI-E 3.0 x4, M.2 Form Factor: 2280, M.2 Key: M-Key Double Height Connector</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® C422 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C422 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C422 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with Intel® i210 Gigabit Ethernet Controller</td>
<td>Dual LAN with Intel® i210 Gigabit Ethernet Controller</td>
<td>Dual LAN with Intel® i210 Gigabit Ethernet Controller</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>6 USB 2.0 ports (2 rear + 4 via headers), 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers), 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers), 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM Header 2 COM Ports (1 rear, 1 header)</td>
<td>TPM Header 2 COM Ports (1 rear, 1 header)</td>
<td>TPM Header 2 COM Ports (1 rear, 1 header)</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor® 5, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor® 5, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 6-pin status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 6-pin status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 6-pin status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>6x 4-pin fan headers (up to 6 fans) System level control PWM fan speed control Fan speed control Overheat LED indication</td>
<td>6x 4-pin fan headers (up to 6 fans) System level control PWM fan speed control Fan speed control Overheat LED indication</td>
<td>7x 4-pin fan headers (up to 7 fans) System level control PWM fan speed control Fan speed control Overheat LED indication</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
### X11 UP Serverboards

#### High-Performance VROC Support
- **Model**: X11SPI-TF
- **Processor**: 2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors
  - Single Socket LGA-3647 (Socket P) supported, CPU TDP supports Up to 165W TDP
  - Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R).
- **Chipset**: Intel® C622
- **Form Factor**: ATX, 12" x 9.6" (30.48cm x 24.38cm)
- **Memory Capacity**: 2TB 3DS ECC DDR4-2933MHz
- **Expansion Slots**: 1 PCIe 3.0 x16, 1 PCIe 3.0 x16 (x16 or x8), 1 PCIe 3.0 x8 (x0 or x8), 1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in x8 slot)
- **M.2 Interface**: PCIe 3.0 x4; SATA
  - M.2 Key: M-Key
- **Onboard RAID Controller**: Intel® C622 controller for 12 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with 10GbE with Intel® X722 + Marvell 88E1512
- **Onboard VGA**: 1 VGA port(s)
- **USB Ports**: 3 USB 3 port(s) (1 Type A; 2 via header)
- **Other Onboard I/O Devices**: 2 SATA DOM (Disk on Module) power connector support
- **Manageability**: SuperDoctor® 5, NMI, SUM, KVM with dedicated LAN, TPM, Intel® Node Manager, Intel® PMM2.0, Watchdog
- **PC Health Monitoring**: Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, TPM, SUM, SuperDoctor® 5, Watchdog
- **Thermal Control**: Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, TPM, SUM, SuperDoctor® 5, Watchdog
- **Other Features**: WOL, UID, RoHs, M.2 NGFF connector, CPU thermal trip support for processor protection, ACPI power management
- **BIOS**: AMI UEFI
- **Model**: X11IPW-TF
- **Processor**: 2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors
  - Single Socket LGA-3647 (Socket P) supported, CPU TDP supports Up to 165W TDP
  - Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R).
- **Chipset**: Intel® C622
- **Form Factor**: ATX, 12" x 9.6" (30.48cm x 24.38cm)
- **Memory Capacity**: 1.5TB 3DS ECC DDR4-2933MHz
- **Expansion Slots**: 1 PCIe 3.0 x16, 1 PCIe 3.0 x16 (x16 or x8), 1 PCIe 3.0 x8 (x0 or x8), 1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in x8 slot)
- **M.2 Interface**: PCIe 3.0 x4; SATA
  - M.2 Key: M-Key
- **Onboard RAID Controller**: Intel® C622 controller for 12 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with 10GbE with Intel® X722 + Marvell 88E1512
- **Onboard VGA**: 1 VGA port(s)
- **USB Ports**: 3 USB 3 port(s) (1 Type A; 2 via header)
- **Other Onboard I/O Devices**: 2 SATA DOM (Disk on Module) power connector support
- **Manageability**: SuperDoctor® 5, NMI, SUM, KVM with dedicated LAN, TPM, Intel® Node Manager, Intel® PMM2.0, Watchdog
- **PC Health Monitoring**: Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, TPM, SUM, SuperDoctor® 5, Watchdog
- **Thermal Control**: Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, TPM, SUM, SuperDoctor® 5, Watchdog
- **Other Features**: WOL, UID, RoHs, M.2 NGFF connector, CPU thermal trip support for processor protection, ACPI power management
- **BIOS**: AMI UEFI

#### Embedded Ready VROC Support
- **Model**: X11SPM-F
- **Processor**: 2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors
  - Single Socket LGA-3647 (Socket P) supported, CPU TDP supports Up to 165W TDP
- **Chipset**: Intel® C622
- **Form Factor**: ATX, 12" x 9.6" (30.48cm x 24.38cm)
- **Memory Capacity**: Up to 1.5TB 3DS ECC DDR4-2933MHz
- **Expansion Slots**: 1 PCIe 3.0 x16, 1 PCIe 3.0 x16 (x16 or x8), 1 PCIe 3.0 x8 (x0 or x8), 1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in x8 slot)
- **M.2 Interface**: PCIe 3.0 x4; SATA
  - M.2 Key: M-Key
- **Onboard RAID Controller**: Intel® C622 controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with 10GbE with Intel® X722 + Marvell 88E1512
- **Onboard VGA**: 1 VGA port(s)
- **USB Ports**: 3 USB 3 port(s) (1 Type A; 2 via header)
- **Other Onboard I/O Devices**: 2 SATA DOM (Disk on Module) power connector support
- **Manageability**: SuperDoctor® 5, NMI, SUM, KVM with dedicated LAN, TPM, Intel® Node Manager, Intel® PMM2.0, Watchdog
- **PC Health Monitoring**: Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, TPM, SUM, SuperDoctor® 5, Watchdog
- **Thermal Control**: Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, TPM, SUM, SuperDoctor® 5, Watchdog
- **Other Features**: WOL, UID, RoHs, M.2 NGFF connector, CPU thermal trip support for processor protection, ACPI power management
- **BIOS**: AMI UEFI

#### Telecom/Storage
- **Model**: X11SPW-TF
- **Processor**: 2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors
  - Single Socket LGA-3647 (Socket P) supported, CPU TDP supports Up to 165W TDP
- **Chipset**: Intel® C622
- **Form Factor**: ATX, 12" x 9.6" (30.48cm x 24.38cm)
- **Memory Capacity**: 1.5TB 3DS ECC DDR4-2933MHz
- **Expansion Slots**: 1 PCIe 3.0 x16, 1 PCIe 3.0 x16 (x16 or x8), 1 PCIe 3.0 x8 (x0 or x8), 1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in x8 slot)
- **M.2 Interface**: PCIe 3.0 x4; SATA
  - M.2 Key: M-Key
- **Onboard RAID Controller**: Intel® C622 controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with 10GbE with Intel® X722 + Marvell 88E1512
- **Onboard VGA**: 1 VGA port(s)
- **USB Ports**: 3 USB 3 port(s) (1 Type A; 2 via header)
- **Other Onboard I/O Devices**: 2 SATA DOM (Disk on Module) power connector support
- **Manageability**: SuperDoctor® 5, NMI, SUM, KVM with dedicated LAN, TPM, Intel® Node Manager, Intel® PMM2.0, Watchdog
- **PC Health Monitoring**: Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, TPM, SUM, SuperDoctor® 5, Watchdog
- **Thermal Control**: Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, TPM, SUM, SuperDoctor® 5, Watchdog
- **Other Features**: WOL, UID, RoHs, M.2 NGFF connector, CPU thermal trip support for processor protection, ACPI power management
- **BIOS**: AMI UEFI
### X11 UP Serverboards

#### High Performance VROC Support
- Up to 2TB 3DS ECC DDR4-2933 MHz
- NVMe, SAS3 and 10G Base-T

#### High Performance VROC and I/O Optimized
- Up to 2TB 3DS ECC DDR4-2933 MHz
- 7 PCI-E 3.0 slots

#### GPU Optimized
- Up to 1TB 3DS ECC DDR4-2933MHz
- 1U/GPU or 1/US AOC

### MODEL List

<table>
<thead>
<tr>
<th>Model</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>X115PH-nCCTF</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket P (LGA 3647) supported, CPU TDP support up to 205W. Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R). Intel® C622</td>
</tr>
<tr>
<td>X115PH-nCTPF</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket P (LGA 3647) supported, CPU TDP support up to 205W. Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R). Intel® C622</td>
</tr>
<tr>
<td>X11SPL-F</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported, CPU TDP supports up to 165W TDP. Intel® C622</td>
</tr>
<tr>
<td>X11SPG-TF**</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported, CPU TDP supports up to 205W TDP. Intel® C621</td>
</tr>
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</table>
### X11 UP Serverboards

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SSW-TF</th>
<th>X11SSW-4TF</th>
<th>X11SSW-F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® Celeron®, Intel® Pentium®, Intel® 7th/6th Generation Core i3 series, Intel® Xeon® processor E3-1200 v6/v5. Single Socket LGA-1151 (Socket H4) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5. Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5. Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Proprietary, 8” x 13” (20.32cm x 33.02cm)</td>
<td>Proprietary, 8” x 13” (20.32cm x 33.02cm)</td>
<td>Proprietary, 8” x 13” (20.32cm x 33.02cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x16 Left Riser Slot, M.2 Interface: PCIe 3.0 x4, Form Factor: 22110, 2280, 2260, M.2 Key: M-Key</td>
<td>1 PCIe 3.0 x16 Left Riser Slot, M.2 Interface: PCIe 3.0 x4, Form Factor: 22110, 2280, 2260, M.2 Key: M-Key</td>
<td>1 PCIe 3.0 x16 Left Riser Slot, M.2 Interface: PCIe 3.0 x4, Form Factor: 22110, 2280, 2260, M.2 Key: M-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® X540 10GBase-T Ethernet Controller</td>
<td>Quad LAN with Intel® X540 10GBase-T Ethernet Controller</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port(s)</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>1 PCIe 3.0 x16 Left Riser Slot, M.2 Interface: PCIe 3.0 x4, Form Factor: 22110, 2280, 2260, M.2 Key: M-Key</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>3 USB 3 port(s) (1 Type A; 2 via header)</td>
<td>6 USB 2.0 port(s) (4 via header; 2 rear)</td>
<td>2 ports SuperDOM</td>
</tr>
<tr>
<td>Manageability</td>
<td>SuperDoctor® 5, NMI, SUM, SPM, Intel® Node Manager, SSM, IPMI2.0, Watchdog</td>
<td>Intel’ Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor’ 5, Watchdog</td>
<td>Intel’ Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor’ 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
<td>6x 4-pin fan headers (up to 6 fans)</td>
</tr>
<tr>
<td>BIOS</td>
<td>128MB SPI Flash EEPROM with AMI BIOS</td>
<td>128MB SPI Flash EEPROM with AMI BIOS</td>
<td>128MB SPI Flash EEPROM with AMI BIOS</td>
</tr>
</tbody>
</table>

*Supermicro chassis required for optimal functionality and performance.

*For detailed memory configurations please refer to Supermicro website.
### X11 SSL Series

**MODEL**

**X11SSL**
- **Processor**: Intel® Celeron®, Intel® Pentium®, Intel® 7th/6th Generation Core i3 series, Intel® Xeon® processor E3-1200 v6/v5
- **Chipset**: Intel® C232
- **Form Factor**: Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- **Memory**: 64GB Unbuffered ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots
- **Slots**: 1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in x8 slot)
- **Onboard RAID Controller**: Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port(s)
- **USB Ports**: 3 USB 3 port(s) (1 Type A; 2 via header), 2 USB 3.0 port(s) (2 rear)
- **Other Onboard I/O Devices**: 1 COM Port(s) (1 rear)
- **Manageability**: SuperDoctor® 5, NMI, SUM, SSM, IPMI2.0
- **PC Health Monitoring**: VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, +5V standby, +5V, +3.3V, +12V
- **Thermal Control**: 5x 4-pin fan headers (up to 5 fans)
- **Other Features**: CPU thermal trip support for processor protection
- **BIOS**: 128MB SPI Flash EEPROM with AMI BIOS

**X11SSL-F**
- **Processor**: Intel® Celeron®, Intel® Pentium®, Intel® 7th/6th Generation Core i3 series, Intel® Xeon® processor E3-1200 v6/v5
- **Chipset**: Intel® C232
- **Form Factor**: Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- **Memory**: 64GB Unbuffered ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots
- **Slots**: 1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in x8 slot)
- **Onboard RAID Controller**: Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port(s)
- **USB Ports**: 3 USB 3 port(s) (1 Type A; 2 via header), 2 USB 3.0 port(s) (2 rear)
- **Other Onboard I/O Devices**: 1 COM Port(s) (1 rear)
- **Manageability**: SuperDoctor® 5, NMI, SUM, SSM, IPMI2.0
- **PC Health Monitoring**: VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, +5V standby, +5V, +3.3V, +12V
- **Thermal Control**: 5x 4-pin fan headers (up to 5 fans)
- **Other Features**: CPU thermal trip support for processor protection
- **BIOS**: 128MB SPI Flash EEPROM with AMI BIOS

**X11SSL-CF**
- **Processor**: Intel® Celeron®, Intel® Pentium®, Intel® 7th/6th Generation Core i3 series, Intel® Xeon® processor E3-1200 v6/v5
- **Chipset**: Intel® C232
- **Form Factor**: Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- **Memory**: 64GB Unbuffered ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots
- **Slots**: 1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in x8 slot)
- **Onboard RAID Controller**: Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port(s)
- **USB Ports**: 3 USB 3 port(s) (1 Type A; 2 via header), 2 USB 3.0 port(s) (2 rear)
- **Other Onboard I/O Devices**: 1 COM Port(s) (1 rear)
- **Manageability**: SuperDoctor® 5, NMI, SUM, SSM, IPMI2.0
- **PC Health Monitoring**: VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, +5V standby, +5V, +3.3V, +12V
- **Thermal Control**: 5x 4-pin fan headers (up to 5 fans)
- **Other Features**: CPU thermal trip support for processor protection
- **BIOS**: 128MB SPI Flash EEPROM with AMI BIOS

**X11SSL-nF**
- **Processor**: Intel® Celeron®, Intel® Pentium®, Intel® 7th/6th Generation Core i3 series, Intel® Xeon® processor E3-1200 v6/v5
- **Chipset**: Intel® C232
- **Form Factor**: Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- **Memory**: 64GB Unbuffered ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots
- **Slots**: 1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in x8 slot)
- **Onboard RAID Controller**: Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port(s)
- **USB Ports**: 3 USB 3 port(s) (1 Type A; 2 via header), 2 USB 3.0 port(s) (2 rear)
- **Other Onboard I/O Devices**: 1 COM Port(s) (1 rear)
- **Manageability**: SuperDoctor® 5, NMI, SUM, SSM, IPMI2.0
- **PC Health Monitoring**: VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, +5V standby, +5V, +3.3V, +12V
- **Thermal Control**: 5x 4-pin fan headers (up to 5 fans)
- **Other Features**: CPU thermal trip support for processor protection
- **BIOS**: 128MB SPI Flash EEPROM with AMI BIOS

---

† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
### Model Comparison

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SSH-CTF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C236</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Micro-ATX, 9.6&quot; W x 9.6&quot; H</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x2 (in x4 slot)</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports, RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with Intel® X550 10GbE-T Ethernet Controller</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>6 USB 2.0 ports (2 rear + 2 headers) + 1 Type A</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>2 ports SuperD9M, TPM Header, 2 COM Ports (1 rear, 1 header)</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog +12V, +3.3V, +5V, +5V standy, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Node Manager Support, WOL</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>6x 4-pin fan headers (up to 6 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Node Manager Support, WOL</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
</tr>
</tbody>
</table>

### Additional Features

- **Datacenter Optimized, Quad GbE**
  - Storage Optimized, Dual 10GbE-T
  - Datacenter Optimized, QSV/VHD
  - X11SSH-LN4F
  - Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5.
  - Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP
  - 64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots
  - 1 PCIe 3.0 x4 (in x8 slot)
  - 1 PCIe 3.0 x2 (in x4 slot)
  - 1 PCIe 3.0 x1 (in x2 slot)
  - 6 USB 2.0 ports (2 rear + 4 headers)
  - 5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)
  - 2 COM Ports (1 rear, 1 header)
  - Intel® C236 controller for 8 SATA3 (6 Gbps) ports, RAID 0,1,5,10
  - Intel® C236 controller for 8 SATA3 (6 Gbps) ports, RAID 0,1,5,10
  - Intel® C236 controller for 8 SATA3 (6 Gbps) ports, RAID 0,1,5,10
  - Intel® C236 controller for 8 SATA3 (6 Gbps) ports, RAID 0,1,5,10

For detailed memory configurations please refer to Supermicro website.
## X11 UP Serverboards

### MODEL

<table>
<thead>
<tr>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Memory Capacity &amp; Slots*</th>
<th>Expansion Slots</th>
<th>Onboard RAID Controller</th>
<th>Onboard LAN</th>
<th>Onboard VGA</th>
<th>USB Ports</th>
<th>Other Onboard I/O Devices</th>
<th>Manageability</th>
<th>PC Health Monitoring</th>
<th>Thermal Control</th>
<th>Other Features</th>
<th>BIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5. Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® C236</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8 (in x8 slot)</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Dual LAN with Intel® Ethernet Controller 82571EB</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>2 ports SuperDOM TPM Header</td>
<td>NMI, SSM, SuperDoctor® 5, Watchdog</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5. Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® C236</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8 (in x8 slot)</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Quad LAN with Intel® Ethernet Controller 82571EB</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>2 ports SuperDOM TPM Header</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5. Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
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<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>2 ports SuperDOM TPM Header</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td></td>
<td></td>
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<tr>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5. Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® C236</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8 (in x8 slot)</td>
<td>Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Dual LAN with Intel® Ethernet Controller 82571EB</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>2 ports SuperDOM TPM Header</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td></td>
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</tr>
</tbody>
</table>

* *Supermicro chassis required for optimal functionality and performance.*

* For detailed memory configurations please refer to Supermicro website.
### Low Power

#### X11SWN-C

- **Processor**: Intel® Celeron® Processor 4305UE; up to 15W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- **Optimized Chassis**: Embedded Classic Chassis: SuperChassis E102
- **Memory**: Up to 64GB Unbuffered non-ECC SODIMM, DDR4-2133MHz, in 2 DIMM slots
- **Other Features**: 8-pin 12VDC Power Connector, ACPI power management, Control of power on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 70°C Operating Temperature (-WOHS)

#### X11SWN-E

- **Processor**: Intel® Celeron® Core™ i3-8665UE Processor; up to 15W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- **Optimized Chassis**: Embedded Classic Chassis: SuperChassis E102
- **Memory**: Up to 64GB Unbuffered non-ECC SODIMM, DDR4-2400MHz, in 2 DIMM slots
- **Other Features**: 8-bit 12VDC DC Power Connector, ACPI power management, Control of power on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 70°C Operating Temperature (-WOHS)

#### X11SWN-H

- **Processor**: Intel® Celeron® Core™ i7-8665UE Processor; up to 15W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- **Optimized Chassis**: Embedded Classic Chassis: SuperChassis E102
- **Memory**: Up to 64GB Unbuffered non-ECC SODIMM, DDR4-2400MHz, in 2 DIMM slots
- **Other Features**: 8-bit 12VDC DC Power Connector, ACPI power management, Control of power on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 70°C Operating Temperature (-WOHS)

### Low Power Quad Core

#### X11SWN-C

- **Processor**: Intel® Celeron® Processor 4305UE; up to 15W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- **Optimized Chassis**: Embedded Classic Chassis: SuperChassis E102
- **Memory**: Up to 64GB Unbuffered non-ECC SODIMM, DDR4-2133MHz, in 2 DIMM slots
- **Other Features**: 8-pin 12VDC Power Connector, ACPI power management, Control of power on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 70°C Operating Temperature (-WOHS)

#### X11SWN-E

- **Processor**: Intel® Celeron® Core™ i5-8665UE Processor; up to 15W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- **Optimized Chassis**: Embedded Classic Chassis: SuperChassis E102
- **Memory**: Up to 64GB Unbuffered non-ECC SODIMM, DDR4-2400MHz, in 2 DIMM slots
- **Other Features**: 8-bit 12VDC DC Power Connector, ACPI power management, Control of power on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 70°C Operating Temperature (-WOHS)

#### X11SWN-H

- **Processor**: Intel® Celeron® Core™ i7-8665UE Processor; up to 15W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- **Optimized Chassis**: Embedded Classic Chassis: SuperChassis E102
- **Memory**: Up to 64GB Unbuffered non-ECC SODIMM, DDR4-2400MHz, in 2 DIMM slots
- **Other Features**: 8-bit 12VDC DC Power Connector, ACPI power management, Control of power on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 70°C Operating Temperature (-WOHS)

### Low Power Quad Core

#### X11SWN-L

- **Processor**: Intel® Celeron® Core™ i5-8665UE Processor; up to 15W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- **Optimized Chassis**: Embedded Classic Chassis: SuperChassis E102
- **Memory**: Up to 64GB Unbuffered non-ECC SODIMM, DDR4-2400MHz, in 2 DIMM slots
- **Other Features**: 8-bit 12VDC DC Power Connector, ACPI power management, Control of power on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 70°C Operating Temperature (-WOHS)
### Embedded System Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SDW-4C-TP13F+</th>
<th>X11SDW-16C-TP13F+</th>
<th>X11SDW-14CN-TP13F+</th>
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<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Xeon® D SoC</td>
<td>Xeon® D SoC</td>
<td>Xeon® D SoC</td>
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<td><strong>Chassis</strong></td>
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<tr>
<td><strong>Optimized Memory</strong></td>
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<td><strong>Memory Capacity</strong></td>
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<td><strong>Controller</strong></td>
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<td>USB 3.0</td>
<td>USB 3.0</td>
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<td><strong>USB Ports</strong></td>
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<td><strong>Other Onboard</strong></td>
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<td>2 COM Ports</td>
<td>2 COM Ports</td>
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<tr>
<td><strong>Manageability</strong></td>
<td>Node Manager</td>
<td>Node Manager</td>
<td>Node Manager</td>
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<tr>
<td><strong>PC Health</strong></td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, -fan status</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, -fan status</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, -fan status</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHs, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHs, SDDC, System level control, UID, WOL</td>
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</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
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</table>

1. Supermicro chassis required for optimal functionality and performance.
2. For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>Model</th>
<th>X11SDW-4C-TP13F</th>
<th>X11SDW-8C-TP13F</th>
<th>X11SDW-12C-TP13F</th>
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<tr>
<td><strong>Processor</strong></td>
<td>Intel® Xeon® Processor D-2133IT</td>
<td>Intel® Xeon® Processor D-2146NT</td>
<td>Intel® Xeon® Processor D-2163IT</td>
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<tr>
<td></td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 60W TDP</td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 80W TDP</td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 75W TDP</td>
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<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Proprietary WIO, 8&quot; x 10&quot; (20.32cm x 25.4cm)</td>
<td>Proprietary WIO, 8&quot; x 9.6&quot; (20.32cm x 24.38cm)</td>
<td>Proprietary WIO, 8&quot; x 10&quot; (20.32cm x 25.4cm)</td>
</tr>
<tr>
<td><strong>Optimized Server</strong></td>
<td>SYS-E303-9D-4C-FCN13TP</td>
<td>SYS-1019D-FCN13TP</td>
<td>SYS-E403-9D-12C-FCN13TP</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td></td>
<td>1 PCI-E 3.0 x16 Left Riser Slot</td>
<td>1 PCI-E 3.0 x16 Left Riser Slot</td>
<td>1 PCI-E 3.0 x16 Left Riser Slot</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with 10G SFP+ LAN via SoC</td>
<td>Dual LAN with 10GbE with Intel® I350-AM4</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4-AM10, supports up to 75W TDP</td>
</tr>
<tr>
<td></td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4</td>
<td>Quad LAN with 1GbE with Intel® I210</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4-AM10, supports up to 75W TDP</td>
</tr>
<tr>
<td></td>
<td>Total 13 LAN ports</td>
<td>Total 13 LAN ports</td>
<td>Total 13 LAN ports</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, Head Only, ASPEED AST2500 BMC</td>
<td>1 VGA port, Head Only, ASPEED AST2500 BMC</td>
<td>1 VGA port, Head Only, ASPEED AST2500 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
</tr>
<tr>
<td></td>
<td>2 USB 3.1 Gen1 ports (2 Rear Type A)</td>
<td>2 USB 3.1 Gen1 ports (2 Rear Type A)</td>
<td>2 USB 3.1 Gen1 ports (2 Rear Type A)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM 2.0 Header &amp; Chip both</td>
<td>TPM 2.0 Header &amp; Chip both</td>
<td>TPM 2.0 Header &amp; Chip both</td>
</tr>
<tr>
<td></td>
<td>2 COM Ports (1 rear, 1 header)</td>
<td>2 COM Ports (1 rear, 1 header)</td>
<td>2 COM Ports (1 rear, 1 header)</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMII2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMII2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMII2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, System temperature</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>6x 4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>6x 4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>6x 4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, Status monitoring for speed control, System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
</tr>
</tbody>
</table>

1. Supermicro chassis required for optimal functionality and performance.
2. For detailed memory configurations please refer to Supermicro website.
### Model Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SDW-14C-TP13F</th>
<th>X11SDW-14CNT-TP13F</th>
<th>X11SDW-16C-TP13F</th>
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<tr>
<td><strong>Processor</strong></td>
<td>Intel® Xeon® Processor D-2173IT</td>
<td>Intel® Xeon® Processor D-2177NT</td>
<td>Intel® Xeon® Processor D-2183IT</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Proprietary WIO, 8&quot; x 10&quot; (20.32cm x 25.4cm)</td>
<td>Proprietary WIO, 8&quot; x 9.6&quot; (20.32cm x 24.38cm)</td>
<td>Proprietary WIO, 8&quot; x 10&quot; (20.32cm x 25.4cm)</td>
</tr>
<tr>
<td><strong>Optimized Server</strong></td>
<td>SYS-E403-9D-14C-FTP13T</td>
<td>SYS-1019D-16C-FTP13T</td>
<td>SYS-E403-9D-14C-FTP13T</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz, up to 512GB RDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz, up to 512GB RDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz, up to 512GB RDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Slots</strong></td>
<td>1 PCI-E 3.0 x2 Left Riser Slot</td>
<td>1 PCI-E 3.0 x2 Left Riser Slot</td>
<td>1 PCI-E 3.0 x2 Left Riser Slot</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Quad LAN with 1GBe with Intel® I350-AM4</td>
<td>Quad LAN with 1GBe with Intel® I350-AM4</td>
<td>Quad LAN with 1GBe with Intel® I350-AM4</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, Header Only, ASPEED AST2500 BMC</td>
<td>1 VGA port, Header Only, ASPEED AST2500 BMC</td>
<td>1 VGA port, Header Only, ASPEED AST2500 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM 2.0 Header &amp; Chip both</td>
<td>TPM 2.0 Header &amp; Chip both</td>
<td>TPM 2.0 Header &amp; Chip both</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPM12.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPM12.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPM12.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>6x 4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
</tr>
</tbody>
</table>

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2. *For detailed memory configurations please refer to Supermicro website.

**Embedded**

**Xeon® D SoC, Skylake-D**

**Quad 10GbE LAN**

**Xeon® D SoC, Skylake-D**

**Intel® Quick Assist Technology**

**Quad 10GbE LAN**

**Xeon® D SoC, Skylake-D**

**Quad 10GbE LAN**

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**SG/Edge/IoT/Embedded Building Block Solutions - May 2023**
### 5G/Edge/IoT/Embedded Building Block Solutions - May 2023

**Model X11SCV-Q**
- **Processor**: 8th Generation Intel® Core® i7/15/13/Pentium/CELERON® Processor
- **Chipset**: Intel® Q370
- **Form Factor**: Mini-ITX, 6.7" x 6.7" (17.15cm x 17.15cm)
- **Memory Capacity**: Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2666 MHz, in 2 DIMM slots
- **Expansion Slots**: 1 PCI-E 3.0 x16
  1 M.2 Key-E Key PCI-E 3.0 x4, 2242/2280
  1 M.2 Key-C NV/SPI 3.0 x1, 2230
- **Onboard RAID Controller**: Intel® Q370 controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Single LAN with Intel® Ethernet Controller I210-AT
- **Chassis**: Single LAN with Intel® PHY I219LM LAN controller
- **VGA**: 1 DVI - D port, 1 HDMI port, 1 DP (DisplayPort) port, 1 eDP (Embedded DisplayPort) port, 3 Independent Displays, HDMI 2.0, Intel® HD Graphics, 4 USB 2.0 ports (4 headers, Type A)
- **USB**: 6 USB 3.1 ports (4 rears (2 Type A + 2 Type C)) + 2 headers; USB 3.1 Gen 2
- **Other Onboard I/O Devices**: ALC 8885 HD Audio
- **Manageability**: AMT, NMI, SuperDoctor® 5, vPro, Watchdog
- **PC Health Monitoring**: +1.8V, +3.3V, +5V, +5V standby, 3 -fan status, HT, Level system control, System temperature, VBAT
- **Thermal Control**: 3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors
- **Other Features**: 12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS, System level control, WOL
- **BIOS**: AMI UEFI

**Model X11SCV-L**
- **Processor**: 8th Generation Intel® Core® i7/15/13/Pentium/CELERON® Processor
- **Chipset**: Intel® H310
- **Form Factor**: Mini-ITX, 6.7" x 6.7" (17.02cm x 17.02cm)
- **Memory Capacity**: Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2666 MHz, in 2 DIMM slots
- **Expansion Slots**: 1 PCI-E 3.0 x16
  1 M.2 Key-E Key PCI-E 2.0 x1, 2230
- **Onboard RAID Controller**: Intel® H310 controller for 4 SATA3 (6 Gbps) ports; Only I-SATA0 - I-SATA3
- **Onboard LAN**: Single LAN with Intel® Ethernet Controller I219LM LAN controller
- **VGA**: 1 DVI - D port, 1 HDMI port, 1 DP (DisplayPort) port, 1 eDP (Embedded DisplayPort) port, 2 Independent Displays, Intel® HD Graphics, 4 USB 2.0 ports (4 headers, Type A)
- **USB**: 6 USB 3.1 ports (4 rears (2 Type A + 2 Type C)) + 2 headers; USB 3.1 Gen 2
- **Other Onboard I/O Devices**: ALC 8885 HD Audio
- **Manageability**: AMT, NMI, SuperDoctor® 5, vPro, Watchdog
- **PC Health Monitoring**: +1.8V, +3.3V, +5V, +5V standby, 3 -fan status, HT, Level system control, System temperature, VBAT
- **Thermal Control**: 3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Pulse Width Modulated (PWM) fan connectors, System level control, Thermal control tachometer fan connectors
- **Other Features**: 12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL
- **BIOS**: AMI UEFI

**Model X11SDV-16C+-TLN2F**
- **Processor**: Intel® Xeon® Processor D-2183IT, CPU TDP support up to 100W TDP
- **Chipset**: Intel® Xeon® Processor D-2141I, CPU TDP support up to 65W TDP
- **Form Factor**: Mini-ITX, 6.75" x 6.75" (17.15cm x 17.15cm)
- **Memory Capacity**: Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz; up to 512GB ECC, LRDIMM, DDR4-2400 MHz, in 4 DIMM slots
- **Expansion Slots**: 1 PCI-E 3.0 x8
  1 PCI-E 3.0 x4 NVMe Internal Port via OcuLink
- **Onboard LAN**: Dual LAN with 10GBase-T with Intel® X557
- **VGA**: 1 VGA port, Aspeed AST2500 BMC
- **USB**: 2 USB 2.0 ports (2 headers, Type A) + 2 USB 3.0 ports (2 rear)
- **Other Onboard I/O Devices**: TPM Header
- **Manageability**: Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, ASL, SSM, SUM, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.5V, +1.8V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 3 -fan status, Memory Voltage, Monitors CPU voltages, Supports system management utility, VBAT
- **Thermal Control**: 3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)
- **Other Features**: 12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID
- **BIOS**: AMI UEFI

**Model X11SDV-8C+-TLN2F**
- **Processor**: Intel® Xeon® Processor D-2141I, CPU TDP support up to 65W TDP
- **Chipset**: Intel® Xeon® Processor D-2141I, CPU TDP support up to 65W TDP
- **Form Factor**: Mini-ITX, 6.75" x 6.75" (17.15cm x 17.15cm)
- **Memory Capacity**: Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz; up to 512GB ECC, LRDIMM, DDR4-2133 MHz, in 4 DIMM slots
- **Expansion Slots**: 1 PCI-E 3.0 x8
  1 PCI-E 3.0 x4 NVMe Internal Port via OcuLink
- **Onboard LAN**: Dual LAN with 10GBase-T with Intel® X557
- **VGA**: 1 VGA port, Aspeed AST2500 BMC
- **USB**: 2 USB 2.0 ports (2 headers, Type A) + 2 USB 3.0 ports (2 rear)
- **Other Onboard I/O Devices**: TPM Header
- **Manageability**: Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.5V, +1.8V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 3 -fan status, Memory Voltage, Monitors CPU voltages, Supports system management utility, VBAT
- **Thermal Control**: 3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)
- **Other Features**: 12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID
- **BIOS**: AMI UEFI
### BIOS AMI UEFI AMI UEFI AMI UEFI AMI UEFI

**Other Features**
- ACPI power management, ATX Power connector, Chassis intrusion header, M.2 NGFF connector, RoHS
- 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, M.2 NGFF connector, RoHS

**BIOS**
- AMI UEFI
- AMI UEFI
- AMI UEFI
- AMI UEFI

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### Other Onboard Devices
- 7.1 HD Audio
- 7.1 HD Audio
- 7.1 HD Audio
- 7.1 HD Audio

### Onboard VGA
- 6 USB 2.0 ports (2 rear + 4 via headers)
- 6 USB 2.0 ports (2 rear + 4 via headers)
- 6 USB 2.0 ports (2 rear + 4 via headers)
- 6 USB 2.0 ports (2 rear + 4 via headers)

### USB Ports
- 6 USB 2.0 ports (4 rear + 2 rear Type A + 2 Rear Type C + 2 via headers)
- 6 USB 2.0 ports (2 rear + 4 via headers)
- 6 USB 1.3 Gen1 ports (2 via headers)
- 6 USB 1.3 Gen2 ports (3 Rear Type A + 1 Rear Type C, 2 via headers)

### Onboard LAN
- Single LAN with Intel® PHY I219LM LAN controller
- Single LAN with Intel® PHY I219LM LAN controller
- Single LAN with Intel® PHY I219LM LAN controller
- Single LAN with Intel® PHY I219LM LAN controller

### Onboard RAID Controller
- Intel® H310 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- Intel® H310 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- Intel® H310 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- Intel® H310 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10

### Onboard VGA
- Intel® Q370 controller
- Intel® Q370 controller
- Intel® Q370 controller
- Intel® Q370 controller

### Chipset
- Intel® Q370
- Intel® H310
- Intel® Q370
- Intel® C246

### Processor
- Intel® Q370
- Intel® H310
- Intel® Q370
- Intel® C246

### Form Factor
- uATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- uATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- uATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- uATX, 9.6” x 9.6” (24.38cm x 24.38cm)

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### Embedded

**High Performance Workstation 2666MHz DDR4**
- X11SCQ-L
- X11SCZ-Q

**vPro AMT 2666MHz DDR4**
- 8th/9th Generation Intel® Core™ i9/ Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor
- Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP

**High Performance IPMI**
- 8th/9th Generation Intel® Core™ i9/ Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor
- Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP
## Embedded

### MODEL

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SDV-4C-TP8F</th>
<th>X11SDV-8C-TP8F</th>
<th>X11SDV-12C-TP8F</th>
<th>X11SDV-16C-TP8F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Xeon® Processor D-2123IT</td>
<td>Intel® Xeon® Processor D-2164NT</td>
<td>Intel® Xeon® Processor D-2166NT</td>
<td>Intel® Xeon® Processor D-2183IT</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Flex ATX, 9&quot; x 7.25&quot;</td>
<td>Flex ATX, 9&quot; x 7.25&quot;</td>
<td>Flex ATX, 9&quot; x 7.25&quot;</td>
<td>Flex ATX, 9&quot; x 7.25&quot;</td>
</tr>
<tr>
<td><strong>Optimized Chassis</strong></td>
<td>Mini U</td>
<td>Mini U</td>
<td>Mini U</td>
<td>Mini U</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>128GB DDR4-2133 MHz, 4 DIMM slots</td>
<td>256GB Registered ECC RDIMM, DDR4-2133 MHz, 4 DIMM slots</td>
<td>256GB Registered ECC RDIMM, DDR4-2133 MHz, 4 DIMM slots</td>
<td>256GB Registered ECC RDIMM, DDR4-2133 MHz, 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI-E x 3.0 x8, 1 PCI-E x 3.0 x16</td>
<td>1 PCI-E x 3.0 x8, 1 PCI-E x 3.0 x16</td>
<td>1 PCI-E x 3.0 x8, 1 PCI-E x 3.0 x16</td>
<td>1 PCI-E x 3.0 x8, 1 PCI-E x 3.0 x16</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® Xeon® Processor D-2123IT</td>
<td>Intel® Xeon® Processor D-2164NT</td>
<td>Intel® Xeon® Processor D-2166NT</td>
<td>Intel® Xeon® Processor D-2183IT</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Quad LAN with Intel® Ethernet Controller 8350-AM4</td>
<td>Quad LAN with Intel® Ethernet Controller 8350-AM4</td>
<td>Quad LAN with Intel® Ethernet Controller 8350-AM4</td>
<td>Quad LAN with Intel® Ethernet Controller 8350-AM4</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 PCI-E x 2.0 ports (2 via headers, Type A)</td>
<td>1 PCI-E x 2.0 ports (2 via headers, Type A)</td>
<td>1 PCI-E x 2.0 ports (2 via headers, Type A)</td>
<td>1 PCI-E x 2.0 ports (2 via headers, Type A)</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>2 USB 2.0 ports (2 rear)</td>
<td>2 USB 2.0 ports (2 rear)</td>
<td>2 USB 2.0 ports (2 rear)</td>
<td>2 USB 2.0 ports (2 rear)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM 2.0 Header</td>
<td>TPM 2.0 Header</td>
<td>TPM 2.0 Header</td>
<td>TPM 2.0 Header</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>IPMI2.0, KVM with dedicated LAN, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>12V DC or ATX Power Source, 8-pin</td>
<td>12V DC or ATX Power Source, 8-pin</td>
<td>12V DC or ATX Power Source, 8-pin</td>
<td>12V DC or ATX Power Source, 8-pin</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>UEFI 128Mb</td>
<td>UEFI 128Mb</td>
<td>UEFI 128Mb</td>
<td>UEFI 128Mb</td>
</tr>
</tbody>
</table>

*Supermicro chassis required for optimal functionality and performance.

*For detailed memory configurations please refer to Supermicro website.
## Embedded Systems Details

**Processor**

- Intel® Xeon® Processor D-2123IT, CPU TDP support up to 60W TDP
- Intel® Xeon® Processor D-2141I, CPU TDP support up to 65W TDP
- Intel® Xeon® Processor D-2166NT, CPU TDP support up to 85W TDP
- Intel® Xeon® Processor D-2183IT, CPU TDP support up to 100W TDP

**Chipset**

- System on Chip

**Form Factor**

- Mini-ITX, 6.75" x 6.75" (17.15cm x 17.15cm)

**Optimized Chassis**

- Mini 1U: SCE300, SC504-203B, SC505-203B
- Mini 1U: SCE300, SC504-203B, SC515-R407, SC512F-260

## Memory

- Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots
- Up to 256GB Registered ECC RDIMM, DDR4-2133 MHz, in 4 DIMM slots
- Up to 256GB Registered ECC RDIMM, DDR4-2133 MHz, in 4 DIMM slots
- Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots

## Expansion Slots

- 1 PCI-E x 3.0 x8
- 1 PCI-E x 3.0 x4 NVMe Internal Port via OCuLink
- 1 PCI-E x 3.0 x8
- 1 PCI-E x 3.0 x4 NVMe Internal Port via OCuLink

## Onboard LAN

- Dual LAN with 10GBase-T with Intel® X557
- Dual LAN with 10GBase-T with Intel® X557
- Dual LAN with 10GBase-T with Intel® X557
- Dual LAN with 10GBase-T with Intel® X557

## USB Ports

- 2 USB 2.0 ports (2 headers, Type A)
- 2 USB 3.0 ports (2 rear)
- 2 USB 2.0 ports (2 headers, Type A)
- 2 USB 3.0 ports (2 rear)
- 2 USB 2.0 ports (2 headers, Type A)
- 2 USB 3.0 ports (2 rear)
- 2 USB 2.0 ports (2 headers, Type A)
- 2 USB 3.0 ports (2 rear)

## Other Onboard I/O Devices

- TPM Header
- TPM Header
- TPM Header
- TPM Header

## Manageability

- Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor®, Watchdog
- Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor®, Watchdog
- Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor®, Watchdog
- Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor®, Watchdog

## PC Health Monitoring

- +1.5V, +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDDIMM), 3 - fan status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT
- +1.5V, +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDDIMM), 3 - fan status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT
- +1.5V, +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDDIMM), 3 - fan status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT
- +1.5V, +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDDIMM), 3 - fan status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT

## Thermal Control

- 3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)
- 3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)
- 3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)
- 3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)

## Other Features

- 12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID
- 12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID
- 12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID
- 12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID

## BIOS

- AMI UEFI
- AMI UEFI
- AMI UEFI
- AMI UEFI

---

1. Supermicro chassis required for optimal functionality and performance.
2. For detailed memory configurations please refer to Supermicro website.
## Embedded Building Block Solutions

### MODEL

<table>
<thead>
<tr>
<th>X11SSN-H</th>
<th>X11SSN-E</th>
<th>X11SSN-L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor¹</td>
<td>7th Generation Intel® Core™ i7-7600U Processor (3.5 GHz, 4 cores, 4 threads)</td>
<td>7th Generation Intel® Core™ i5-7300U Processor (2.6 GHz, 2 cores, 4 threads)</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot;</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot;</td>
</tr>
<tr>
<td>Chassis</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
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<tr>
<td>Optimized Form Factor</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
</tr>
<tr>
<td>Optimized Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 Full size Mini-PCI-E with mSATA(USB 2.0 x 1, PCI-E 3.0 x 1, SATA 3.0 x 1), M.2 Form Factor: 2242, 2280, 3042</td>
<td>1 Full size Mini-PCI-E with mSATA(USB 2.0 x 1, PCI-E 3.0 x 1, SATA 3.0 x 1)</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>I-SATA1 (1x SATA 3.0 Port)</td>
<td>I-SATA1 (1x SATA 3.0 Port)</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Single LAN with Intel® Ethernet Controller I210IT</td>
<td>Single LAN with Intel® PHY I219LM LAN controller</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>Intel® HD Graphics</td>
<td>Intel® HD Graphics</td>
</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 2.0 ports (4 headers, Type A), 2 USB 3.0 ports (2 rear)</td>
<td>4 USB 2.0 ports (4 headers, Type A), 2 USB 3.0 ports (2 rear)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>ALC 8885 HD Audio TPM 2.0 Chip</td>
<td>ALC 8885 HD Audio TPM 2.0 Chip</td>
</tr>
<tr>
<td>Manageability</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog</td>
<td>SuperDoctor® 5, vPro, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors for CPU Cores, System level control, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors for CPU Cores, System level control, System temperature, VBAT</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td>Other Features</td>
<td>4-pin 12v R/A Type DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>4-pin 12v R/A Type DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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</table>

¹ Supermicro chassis required for optimal functionality and performance.

² For detailed memory configurations please refer to Supermicro website.
### Embedded

#### MODEL

- **X11SSQ**
- **X11SSQ-L**
- **X11SSV-Q**
- **X11SSV-LVDS**

<table>
<thead>
<tr>
<th>Feature</th>
<th>X11SSQ</th>
<th>X11SSQ-L</th>
<th>X11SSV-Q</th>
<th>X11SSV-LVDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor†</td>
<td>7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket LGA 1151 supported, CPU TDP support 95W</td>
<td>7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket LGA 1151 supported, CPU TDP support 91W Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket LGA 1151 supported, CPU TDP support 91W</td>
<td>7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket LGA 1151 supported, CPU TDP support 95W-91W Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket LGA 1151 supported, CPU TDP support 95W Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket LGA 1151 supported, CPU TDP support 91W</td>
<td>7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket LGA 1151 supported, CPU TDP support 91W Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket LGA 1151 supported, CPU TDP support 91W</td>
</tr>
<tr>
<td>Chipset Form Factor</td>
<td>Mini-ITX 6.7&quot;W x 6.7&quot;H</td>
<td>Mini-ITX 6.7&quot;W x 6.7&quot;H</td>
<td>Desktop (uATX 9.6&quot;W x 9.6&quot;H)</td>
<td>Desktop (uATX 9.6&quot;W x 9.6&quot;H)</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td>Optimized</td>
<td>Optimized</td>
<td>Optimized</td>
<td>Optimized</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 64GB Unbuffered Non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>Up to 32GB Unbuffered Non-ECC UDIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x16</td>
<td>1 PCI-E 3.0 x16</td>
<td>1 PCI-E 3.0 x16</td>
<td>1 PCI-E 3.0 x16</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® Q170 controller for 6 SATA3 (6Gb/s) ports; RAID 0,1,5,10</td>
<td>Intel® X79 controller for 6 SATA3 (6Gb/s) ports</td>
<td>Intel® X79 controller for 6 SATA3 (6Gb/s) ports</td>
<td>Intel® X79 controller for 6 SATA3 (6Gb/s) ports</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 HDMI, 1 DP (DisplayPort), 1 DVI-D, 1 EDP (Embedded DisplayPort)</td>
<td>1 HDMI, 1 DP (DisplayPort), 1 DVI-D, 1 EDP (Embedded DisplayPort)</td>
<td>1 HDMI port, 1 DP (DisplayPort) port, 1 1/8 in audio, 3 independent Displays, 1 independent Display, 1 independent Display</td>
<td>1 HDMI port, 1 DP (DisplayPort) port, 1 1/8 in audio, 3 independent Displays, 1 independent Display</td>
</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 3.0 ports (2 rear + 2 via header)</td>
<td>4 USB 3.0 ports (2 rear + 2 via header)</td>
<td>5 USB 2.0 ports (4 via headers, 1 Type A)</td>
<td>5 USB 2.0 ports (4 via headers, 1 Type A)</td>
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<tr>
<td>Other OnBoard I/O Devices</td>
<td>1 Port SuperDOM ALC 8885 HD Audio</td>
<td>1 Port SuperDOM ALC 8885 HD Audio</td>
<td>2 ports SuperDOM ALC 8885 HD Audio</td>
<td>2 ports SuperDOM ALC 8885 HD Audio</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Internal control, Internal control</td>
<td>8-pin 12VDC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>8-pin 12VDC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>8-pin 12VDC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control, WOL</td>
</tr>
<tr>
<td>Other Features</td>
<td>ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, M.2 NGFF connector, System level control, WOL, RST</td>
<td>ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, M.2 NGFF connector, System level control, WOL, RST</td>
<td>ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, M.2 NGFF connector, System level control, WOL, RST</td>
<td>ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, M.2 NGFF connector, System level control, WOL, RST</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
### MODEL

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SSV-M4</th>
<th>X11SSV-M4F</th>
<th>X11SBA-F X11SBA-LN4F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® Xeon® Processor E3-1515M v5, Single Socket FCGBA1440 supported; QPI up to 8.0GT/s; CPU TDP support 45W</td>
<td>Intel® Xeon® Processor E3-1585 v5, Single Socket FCGBA1440 supported; QPI up to 8.0GT/s; CPU TDP support 60W</td>
<td>Intel® Pentium® Processor N3700, Single Socket FCGBA1170 supported; CPU TDP support 6W</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® CM236</td>
<td>Intel® C236</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-ITX 6.7&quot; x 6.7&quot;</td>
<td>Mini-ITX 6.7&quot; x 6.7&quot;</td>
<td>Mini-ITX 6.7&quot; x 6.7&quot;</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 32GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>8GB Unbuffered non-ECC SO-DIMM, DDR3-1600 MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x16, Mini PCIe with mSATA support, M.2 PCI-E 3.0 x4 with SATA support, PCI-E 3.0 x16 slot can bifurcate into two x8s M Key 2242/2280</td>
<td>1 PCI-E 3.0 x16, Mini PCIe with mSATA support, M.2 PCI-E 3.0 x4 with SATA support, PCI-E 3.0 x16 slot can bifurcate into two x8s M Key 2242/2280</td>
<td>1 PCI-E 2.0 x1 (in x8 slot)</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® CM236 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,5,10, Intel® RSTe</td>
<td>Intel® C236 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,5,10, Intel® RSTe</td>
<td>SoC controller for 2 SATA3 (6Gb/s) ports</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Single LAN with Intel® PHY I219LM LAN controller; Single LAN with Intel® Ethernet Controller I210-AT; Dual LAN with Intel® Ethernet Controller I350-AM2</td>
<td>Single LAN with Intel® PHY I219LM LAN controller; Single LAN with Intel® Ethernet Controller I210-AT; Dual LAN with Intel® Ethernet Controller I350-AM2</td>
<td>-F: Dual LAN with Intel® Ethernet Controller I210-AT; -LN4F: Quad LAN with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 HDMI, 1 DP (DisplayPort), 1 DVI-I, 1 Intel® Iris Pro Graphics P580</td>
<td>1 DVI-A, Aspeed AST2400 BMC</td>
<td>1 HDMI, 1 DP (DisplayPort), 1 VGA via Aspeed AST2400 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>5 USB 2.0 ports (+ 4 via headers + 1 Type A)</td>
<td>5 USB 2.0 ports (+ 4 via headers + 1 Type A)</td>
<td>7 USB 2.0 ports (2 rear + 4 via headers + 1 header A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>2 ports SuperDOM ALC8885 HD Audio TPM 1.2 Header 1 COM Ports (1 rear) COM Port in RJ45 Socket</td>
<td>2 ports SuperDOM ALC8885 HD Audio TPM 1.2 Header 1 COM Ports (1 rear) COM Port in RJ45 Socket</td>
<td>1 Port SuperDOM ALC8885 HD Audio TPM Header 2 COM Ports (2 headers)</td>
</tr>
<tr>
<td>Manageability</td>
<td>IPMI 2.0 + KVM with shared LAN (-M4F only); SuperDoctor® 5, Watchdog: AMT, vPro (-M4 only)</td>
<td>IPMI 2.0 + KVM with shared LAN (-M4F only); SuperDoctor® 5, Watchdog: AMT, vPro (-M4 only)</td>
<td>IPMI 2.0 + KVM with dedicated LAN, NMI, SSM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3-pin status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3-pin status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Supports system management utility, System level control</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>3-pin, Fan speed control, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>3-pin, Fan speed control, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td>Other Features</td>
<td>8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, WOL</td>
</tr>
</tbody>
</table>

1. Supermicro chassis required for optimal functionality and performance.
2. For detailed memory configurations please refer to Supermicro website.
### Processor

<table>
<thead>
<tr>
<th>Model</th>
<th>Processor</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SSZ-TLN4F</td>
<td>Intel® Xeon® Processor E3-1200 v6/v5 product family, 7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 95W</td>
</tr>
<tr>
<td>X11SSZ-F</td>
<td>Intel® Xeon® Processor E3-1200 v6/v5 product family, 7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 95W</td>
</tr>
<tr>
<td>X11SSZ-QF</td>
<td>7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 95W</td>
</tr>
</tbody>
</table>

### Chipset

<table>
<thead>
<tr>
<th>Model</th>
<th>Chipset</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SSZ-TLN4F</td>
<td>Intel® C236</td>
</tr>
<tr>
<td>X11SSZ-F</td>
<td>Intel® C236</td>
</tr>
<tr>
<td>X11SSZ-QF</td>
<td>Intel® Q170</td>
</tr>
</tbody>
</table>

### Form Factor

<table>
<thead>
<tr>
<th>Model</th>
<th>Form Factor</th>
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<tbody>
<tr>
<td>X11SSZ-TLN4F</td>
<td>uATX 9.6” x 9.6”</td>
</tr>
<tr>
<td>X11SSZ-F</td>
<td>uATX 9.6” x 9.6”</td>
</tr>
<tr>
<td>X11SSZ-QF</td>
<td>uATX 9.6” x 9.6”</td>
</tr>
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</table>

### Memory Capacity & Slots

<table>
<thead>
<tr>
<th>Model</th>
<th>Capacity &amp; Slots</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SSZ-TLN4F</td>
<td>Single Socket H4 (LGA 1151) supported; CPU TDP support 95W</td>
</tr>
<tr>
<td>X11SSZ-F</td>
<td>Single Socket H4 (LGA 1151) supported; CPU TDP support 95W</td>
</tr>
<tr>
<td>X11SSZ-QF</td>
<td>Single Socket H4 (LGA 1151) supported; CPU TDP support 95W</td>
</tr>
</tbody>
</table>

### Onboard RAID Controller

<table>
<thead>
<tr>
<th>Model</th>
<th>RAID</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SSZ-TLN4F</td>
<td>RAID 0,1,5,10</td>
</tr>
<tr>
<td>X11SSZ-F</td>
<td>RAID 0,1,5,10</td>
</tr>
<tr>
<td>X11SSZ-QF</td>
<td>RAID 0,1,5,10</td>
</tr>
</tbody>
</table>

### Onboard LAN

<table>
<thead>
<tr>
<th>Model</th>
<th>LAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SSZ-TLN4F</td>
<td>1GbE LAN with Intel® PHY I219LM; 1GbE LAN with Intel® i210-AT</td>
</tr>
<tr>
<td>X11SSZ-F</td>
<td>1GbE LAN with Intel® PHY I219LM; Intel® C236</td>
</tr>
<tr>
<td>X11SSZ-QF</td>
<td>1GbE LAN with Intel® PHY I219LM; Intel® C236</td>
</tr>
</tbody>
</table>

### Onboard VGA

<table>
<thead>
<tr>
<th>Model</th>
<th>VGA</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SSZ-TLN4F</td>
<td>2 DP (DisplayPort); 1 DVI-I; Intel® HD Graphics; 3 Independent Displays</td>
</tr>
<tr>
<td>X11SSZ-F</td>
<td>2 DP (DisplayPort); 1 DVI-I; Intel® HD Graphics; 3 Independent Displays</td>
</tr>
<tr>
<td>X11SSZ-QF</td>
<td>2 DP (DisplayPort); 1 DVI-I; Intel® HD Graphics; 3 Independent Displays</td>
</tr>
</tbody>
</table>

### USB Ports

<table>
<thead>
<tr>
<th>Model</th>
<th>Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SSZ-TLN4F</td>
<td>4 USB 3.0 ports (2 rear + 2 via header)</td>
</tr>
<tr>
<td>X11SSZ-F</td>
<td>4 USB 3.0 ports (2 rear + 2 via header)</td>
</tr>
<tr>
<td>X11SSZ-QF</td>
<td>4 USB 3.0 ports (2 rear + 2 via header)</td>
</tr>
</tbody>
</table>

### Other Onboard I/O Devices

<table>
<thead>
<tr>
<th>Model</th>
<th>I/O Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SSZ-TLN4F</td>
<td>1 Port SuperDOM, 1 SATA DOM power connector</td>
</tr>
<tr>
<td>X11SSZ-F</td>
<td>1 Port SuperDOM, 1 SATA DOM power connector</td>
</tr>
<tr>
<td>X11SSZ-QF</td>
<td>1 Port SuperDOM, 1 SATA DOM power connector</td>
</tr>
</tbody>
</table>

### Manageability

<table>
<thead>
<tr>
<th>Model</th>
<th>Manageability</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SSZ-TLN4F</td>
<td>IPMI 2.0 + KVM with dedicated LAN, AMT, NMI, SSM, SUM, SuperDoctor® 5 vPro, Watchdog</td>
</tr>
<tr>
<td>X11SSZ-F</td>
<td>IPMI 2.0 + KVM with dedicated LAN, AMT, NMI, SSM, SUM, SuperDoctor® 5 vPro, Watchdog</td>
</tr>
<tr>
<td>X11SSZ-QF</td>
<td>IPMI 2.0 + KVM with dedicated LAN, AMT, NMI, SSM, SUM, SuperDoctor® 5 vPro, Watchdog</td>
</tr>
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### PC Health Monitoring

<table>
<thead>
<tr>
<th>Model</th>
<th>PC Health Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SSZ-TLN4F</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
</tr>
<tr>
<td>X11SSZ-F</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
</tr>
<tr>
<td>X11SSZ-QF</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
</tr>
</tbody>
</table>

### Thermal Control

<table>
<thead>
<tr>
<th>Model</th>
<th>Thermal Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SSZ-TLN4F</td>
<td>6 4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td>X11SSZ-F</td>
<td>6 4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td>X11SSZ-QF</td>
<td>6 4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
</tr>
</tbody>
</table>

### Other Features

<table>
<thead>
<tr>
<th>Model</th>
<th>Other Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SSZ-TLN4F</td>
<td>8-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, System level control, UID, VHD, WOL, RSTe</td>
</tr>
<tr>
<td>X11SSZ-F</td>
<td>8-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, System level control, UID, VHD, WOL, RSTe</td>
</tr>
<tr>
<td>X11SSZ-QF</td>
<td>8-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, System level control, UID, VHD, WOL, RSTe</td>
</tr>
</tbody>
</table>

### BIOS

<table>
<thead>
<tr>
<th>Model</th>
<th>BIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SSZ-TLN4F</td>
<td>AMI UEFI</td>
</tr>
<tr>
<td>X11SSZ-F</td>
<td>AMI UEFI</td>
</tr>
<tr>
<td>X11SSZ-QF</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

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* For detailed memory configurations please refer to the Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>A3SEV-4C-LN4</th>
<th>A3SEV-2C-LN4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor†</td>
<td>Intel® Atom® Processor x6425E Single Socket FCGBA-1493 supported, CPU TDP supports Up to 12W TDP</td>
<td>Intel® Atom® Processor x6211E</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-ITX, 6.7“ x 6.7“ (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7“ x 6.7“ (17.02cm x 17.02cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 32GB Unbuffered non-ECC SODIMM, DDR4-3200MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SODIMM, DDR4-3200MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 X2 (in x8 slot) M.2 Interface: 1 SATA/PCIe 3.0 x2/USB 3.0; 1 PCIe 3.0 x1/USB 2.0 Form Factor: 3042/2280, 2230 M.2 Key: B-Key, E-Key</td>
<td>1 PCIe 3.0 X2 (in x8 slot) M.2 Interface: 1 SATA/PCIe 3.0 x2/USB 3.0; 1 PCIe 3.0 x1/USB 2.0 Form Factor: 3042/2280, 2230 M.2 Key: B-Key, E-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Single LAN with Intel® Ethernet Controller I210IT, ONLY i210 support PXE 3 LAN with 1GbE with Marvell® 88E1512</td>
<td>Single LAN with Intel® Ethernet Controller I210IT, ONLY i210 support PXE 3 LAN with 1GbE with Marvell® 88E1512</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port(s), 1 DP (DisplayPort) port(s), 1 HDMI port(s), 1 eDP (Embedded DisplayPort) port(s) 1 Intel® HD Graphics port(s)</td>
<td>1 VGA port(s), 1 DP (DisplayPort) port(s), 1 HDMI port(s), 1 eDP (Embedded DisplayPort) port(s) 1 Intel® HD Graphics port(s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 3.1 Gen2 port(s) (2 rear type A) 6 USB 2.0 port(s) (4 via header; 2 rear)</td>
<td>2 USB 3.1 Gen2 port(s) (2 rear type A) 6 USB 2.0 port(s) (4 via header; 2 rear)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>4 COM Port(s) (4 header) TPM 2.0 Header &amp; Chip both ALC 888S HD Audio</td>
<td>4 COM Port(s) (4 header) TPM 2.0 Header &amp; Chip both ALC 888S HD Audio</td>
</tr>
<tr>
<td>Manageability</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>VBAT, System temperature, System level control, Chassis intrusion header, +5V standby, +5V, +3.3V, +12V, +1.8V, Memory Voltages</td>
<td>VBAT, System temperature, System level control, Chassis intrusion header, +5V standby, +5V, +3.3V, +12V, +1.8V, Memory Voltages</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>Thermal control tachometer fan connectors, System level control, PWM fan speed control, Low noise fan speed control, Fan speed control, Dual Cooling Zone, Overheat LED indication</td>
<td>Thermal control tachometer fan connectors, System level control, PWM fan speed control, Low noise fan speed control, Fan speed control, Dual Cooling Zone, Overheat LED indication</td>
</tr>
<tr>
<td>Other Features</td>
<td>WOL, System level control, RoHS, CPU thermal trip support for processor protection, Chassis intrusion header, ATX Power connector, ACPI power management, 12V DC or ATX Power Source, 4-pin 12V DC power connector</td>
<td>WOL, System level control, RoHS, CPU thermal trip support for processor protection, Chassis intrusion header, ATX Power connector, ACPI power management, 12V DC or ATX Power Source, 4-pin 12V DC power connector</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
## Embedded

### 4-Core Denverton
**Eight 1Gbe RJ45**
**Intel® Quick Assist Technology**

(Extension: ATX 9.0”W x 7.25”H)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>A3SSV-8C-SPLN10F</th>
<th>A3SSV-16C-SPLN10F</th>
<th>A3SSV-24C-SPLN10F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® Atom® Processor P5322</td>
<td>Intel® Atom® Processor P5342</td>
<td>Intel® Atom® Processor P5362</td>
</tr>
<tr>
<td></td>
<td>Single Socket FCBGA-2106 supported, CPU TDP supports Up to 55W TDP</td>
<td>Single Socket FCBGA-2106 supported, CPU TDP supports Up to 71W TDP</td>
<td>Single Socket FCBGA-2106 supported, CPU TDP supports Up to 83W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 256GB ECC RDI, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB ECC , DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 256GB ECC RDI, DDR4-2933MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x4 M.2 Interface 1 PCIe 2.0 x2/SATA 2.0/USB 3.0; 1 PCIe 2.0 x1/USB 2.0; 1 PCIe 2.0 x4/SATA 2.0/USB 2.0 Form Factor: 2242/3042/2280, 2230, 2242/2280/22110 M.2 Key: B-Key, E-Key, M-Key</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x4 M.2 Interface 1 PCIe 2.0 x2/SATA 2.0/USB 3.0; 1 PCIe 2.0 x1/USB 2.0; 1 PCIe 2.0 x4/SATA 2.0/USB 2.0 Form Factor: 2242/3042/2280, 2230, 2242/2280/22110 M.2 Key: B-Key, E-Key, M-Key</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x4 M.2 Interface 1 PCIe 2.0 x2/SATA 2.0/USB 3.0; 1 PCIe 2.0 x1/USB 2.0; 1 PCIe 2.0 x4/SATA 2.0/USB 2.0 Form Factor: 2242/3042/2280, 2230, 2242/2280/22110 M.2 Key: B-Key, E-Key, M-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 6 SATA2 (3 Gbps) ports</td>
<td>SoC controller for 6 SATA2 (3 Gbps) ports</td>
<td>SoC controller for 6 SATA2 (3 Gbps) ports</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Quad LAN with Marvell® Alaska® 88E1543</td>
<td>Quad LAN with Intel® i350 Gigabit Ethernet Controller Dual LAN with SoC</td>
<td>Quad LAN with Marvell® Alaska® 88E1543</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 ASPEED AST2500 BMC port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 2.0 port(s) (2 via header)</td>
<td>2 USB 2.0 port(s) (2 via header)</td>
<td>2 USB 2.0 port(s) (2 via header)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>2 COM Port(s) (2 header)</td>
<td>1 SuperDOM (Disk on Module) power connector TPM 2.0 Header &amp; Chip both</td>
<td>2 COM Port(s) (2 header)</td>
</tr>
<tr>
<td>Manageability</td>
<td>SuperDoctor® 5, SUM, SPM, Intel® Node Manager, SSM, Watchdog, IPMI Intelligent Platform Management Interface v2.0 with KVM support</td>
<td>SuperDoctor® 5, SUM, SPM, Intel® Node Manager, SSM, Watchdog, IPMI Intelligent Platform Management Interface v2.0 with KVM support</td>
<td>SuperDoctor® 5, SUM, SPM, Intel® Node Manager, SSM, Watchdog, IPMI Intelligent Platform Management Interface v2.0 with KVM support</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Memory temperature, Chassis intrusion header, 5 -fan status, 3.3V standby, 1.2V (VDIMM), 1.05 (PCH), +5V, +3.3V, +12V</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Memory temperature, Chassis intrusion header, 5 -fan status, 3.3V standby, 1.2V (VDIMM), 1.05 (PCH), +5V, +3.3V, +12V</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Memory temperature, Chassis intrusion header, 5 -fan status, 3.3V standby, 1.2V (VDIMM), 1.05 (PCH), +5V, +3.3V, +12V</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>UDI, RhoS, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology</td>
<td>UDI, RhoS, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology</td>
<td>UDI, RhoS, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology</td>
</tr>
<tr>
<td>BIOS</td>
<td>32MB AMI UEFI</td>
<td>32MB AMI UEFI</td>
<td>32MB AMI UEFI</td>
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2. For detailed memory configurations please refer to Supermicro website.
**Embedded Building Block Solutions - May 2023**

**MODEL**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>A3SPI-4C-LN6PF</th>
<th>A3SPI-8C-LN6PF</th>
<th>A3SPI-4C-HLN4F</th>
<th>A3SPI-8C-HLN4F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® Atom® Processor C5315</td>
<td>Intel® Atom® Processor C5325</td>
<td>Intel® Atom® Processor C5315</td>
<td>Intel® Atom® Processor C5325</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-ITX, 6.7&quot; x 7.1&quot; (17.02cm x 18.3cm)</td>
<td>Mini-ITX, 6.7&quot; x 7.1&quot; (17.02cm x 18.3cm)</td>
<td>Mini-ITX, 6.7&quot; x 7.1&quot; (17.02cm x 18.3cm)</td>
<td>Mini-ITX, 6.7&quot; x 7.1&quot; (17.02cm x 18.3cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 128GB ECC RDIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 128GB ECC RDIMM, DDR4-2933MHz, in 2 DIMM slots</td>
<td>Up to 128GB ECC RDIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 128GB ECC RDIMM, DDR4-2933MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>M.2 Key: PCIe 3.0 x2</td>
<td>M.2 Key: PCIe 3.0 x2</td>
<td>M.2 Key: PCIe 3.0 x2</td>
<td>M.2 Key: PCIe 3.0 x2</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Quad LAN with Intel® C5000 SoC, 1GbE Dual LAN with SoC</td>
<td>Quad LAN with Intel® C5000 SoC, 1GbE Dual LAN with SoC</td>
<td>Quad LAN with Intel® C5000 SoC, 1GbE</td>
<td>Quad LAN with Intel® C5000 SoC, 1GbE</td>
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<tr>
<td>Onboard VGA</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 2.0 port(s) (2 via header)</td>
<td>2 USB 2.0 port(s) (2 via header)</td>
<td>2 USB 2.0 port(s) (2 via header)</td>
<td>2 USB 2.0 port(s) (2 via header)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 COM Port(s) (1 header)</td>
<td>1 COM Port(s) (1 header)</td>
<td>1 COM Port(s) (1 header)</td>
<td>1 COM Port(s) (1 header)</td>
</tr>
<tr>
<td>Manageability</td>
<td>Watchdog, IPMI (Intel® Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5</td>
<td>Watchdog, IPMI (Intel® Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5</td>
<td>Watchdog, IPMI (Intel® Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5</td>
<td>Watchdog, IPMI (Intel® Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5</td>
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<tr>
<td>BIOS</td>
<td>32MB AMI UEFI</td>
<td>32MB AMI UEFI</td>
<td>32MB AMI UEFI</td>
<td>32MB AMI UEFI</td>
</tr>
</tbody>
</table>

* Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>A2SDV-4C-LN8F</th>
<th>A2SDV-8C-LN8F</th>
<th>A2SDV-4C-LN10PF</th>
<th>A2SDV-8C-LN10PF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® Atom® Processor C3558. Single Socket FCBGA1310 supported, CPU TDP support up to 16W TDP</td>
<td>Intel® Atom® Processor C3758. Single Socket FCBGA1310 supported, CPU TDP support up to 25W TDP</td>
<td>Intel® Atom® Processor C3558. Single Socket FCBGA1310 supported, CPU TDP support up to 16W TDP</td>
<td>Intel® Atom® Processor C3758. Single Socket FCBGA1310 supported, CPU TDP support up to 25W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td>Mini 1U: ● SCEO300-LED+ SCS04-203B SCS05-203B</td>
<td>Mini 1U: ● SCEO300-LED+ SCS04-203B SCS05-203B</td>
<td>Mini 1U: ● SCEO300-LED+ SCS04-203B SCS05-203B</td>
<td>Mini 1U: ● SCEO300-LED+ SCS04-203B SCS05-203B</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 256GB Registered ECC DIMM, DDR4-2133 MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC DIMM, DDR4-2133 MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC DIMM, DDR4-2133 MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC DIMM, DDR4-2133 MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x2 (in x4 slot) Option for Slot 6 or Slot 7 M.2 Interface: 1 SATA/PCI-E 3.0 x2/USB 3.0 M.2 Key: B-Key</td>
<td>1 PCI-E 3.0 x4 Option for Slot 6 or Slot 7 1 M.2 M-Key SATA/PCI-E 3.0 x2, 2242/2280 1 M.2 B-Key SATA/PCI-E 3.0 x2/USB 3.0, 3042/2280</td>
<td>1 PCI-E 3.0 up to x2 (in x4 slot) *Number of PCI-E slot (option for Slot 6 or Slot 7) is configurable in BIOS: 0 or 2. PCI-E expansion slot is disabled when number of SATA ports is set to 3. M.2 Interface: 1 SATA/PCI-E 3.0 x2/USB 3.0 M.2 Form Factor: 3042, 2280 M.2 Key: B-Key</td>
<td>1 PCI-E 3.0 x4 Option for Slot 6 or Slot 7 M.2 M-Key SATA/PCI-E 3.0 x2, 2242/2280 1 M.2 B-Key SATA/PCI-E 3.0 x2/USB 3.0, 3042/2280</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 3 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 5 SATA3 (6 Gbps) ports;</td>
<td>Up to 3 SATA3(6 Gbps) ports via SoC. *Number of SATA ports is configurable in BIOS: 0 or 2. One SATA port is available when PCI-E x2 expansion slot is enabled.</td>
<td>SoC controller for 5 SATA3 (6 Gbps) ports;</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Quad LAN with Intel® C3000 SoC Quad LAN with Intel® Ethernet Controller I350-AM4</td>
<td>Quad LAN with Intel® C3000 SoC Quad LAN with Intel® Ethernet Controller I350-AM4</td>
<td>Quad LAN with Intel® C3000 SoC Quad LAN with Intel® Ethernet Controller I350-AM4</td>
<td>Quad LAN with Intel® C3000 SoC Quad LAN with Intel® Ethernet Controller I350-AM4</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 2.0 ports (2 headers, Type A) 3 USB 3.0 ports (2 rear + 1 Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A) 3 USB 3.0 ports (2 rear + 1 Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A) 3 USB 3.0 ports (2 rear + 1 Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A) 3 USB 3.0 ports (2 rear + 1 Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>TPM Header 1 COM Port (1 header)</td>
<td>TPM Header 1 COM Port (1 header)</td>
<td>TPM Header 1 COM Port (1 header)</td>
<td>TPM Header 1 COM Port (1 header)</td>
</tr>
<tr>
<td>Manageability</td>
<td>IPMI2.0, NMI, SuperDoctor® 5, Watchdog</td>
<td>IPMI2.0, NMI, SuperDoctor® 5, Watchdog</td>
<td>IPMI2.0, NMI, SuperDoctor® 5, Watchdog</td>
<td>IPMI2.0, NMI, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 3.3V standby, 5-pin status, Chassis intrusion header, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 3.3V standby, 5-pin status, Chassis intrusion header, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 3.3V standby, 5-pin status, Chassis intrusion header, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 3.3V standby, 5-pin status, Chassis intrusion header, VBAT</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>5x 4-pin fan headers (up to 5 fans), 5 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control</td>
<td>5x 4-pin fan headers (up to 5 fans), 5 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control</td>
<td>5x 4-pin fan headers (up to 5 fans), 5 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control</td>
<td>5x 4-pin fan headers (up to 5 fans), 5 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control</td>
</tr>
<tr>
<td>Other Features</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS, UID</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS, UID</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS, UID</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS, UID</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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</tbody>
</table>

*Supermicro chassis required for optimal functionality and performance.
*For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>A2SDi-16C-TP8F</th>
<th>A2SDV-16C-TLNF5F</th>
<th>A2SDV-12C-+TLN5F</th>
<th>A2SDV-8C-TLNF5F</th>
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</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® Atom™ Processor C3958. Single Socket FCBGA1310 supported, CPU TDP support 31W TDP</td>
<td>Intel® Atom™ Processor C3958. Single Socket FCBGA1310 supported, CPU TDP support up to 31W TDP</td>
<td>Intel® Atom™ Processor C3958. Single Socket FCBGA1310 supported, CPU TDP support up to 25W TDP</td>
<td>Intel® Atom™ Processor C3958. Single Socket FCBGA1310 supported, CPU TDP support up to 17W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (22.86cm x 18.42cm)</td>
<td>Mini-ITX, 9.0&quot; x 7.25&quot; (22.86cm x 18.42cm)</td>
<td>Mini-ITX, 9.0&quot; x 7.25&quot; (22.86cm x 18.42cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x8</td>
<td>1 miniPCI-E 4 with mSATA supports (half card only)</td>
<td>1 miniPCI-E 3.0 x2 and SATA</td>
<td>1 miniPCI-E 3.0 x2 and SATA</td>
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<tr>
<td>B-Key Form Factor</td>
<td>2242, 2280</td>
<td>3042, 2280</td>
<td>3042, 2280</td>
<td>3042, 2280</td>
</tr>
<tr>
<td>M.2 Form Factor</td>
<td>M.2: Key: M-Key</td>
<td>M.2: Key: M-Key</td>
<td>M.2: Key: M-Key</td>
<td>M.2: Key: M-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 4 SATA3 (6 Gbps ports); Quad LAN with Intel® C3000 SoC 2 10GBaseT, 2 10G SFP+</td>
<td>SoC controller for 2 SATA3 (6 Gbps ports); Quad LAN with Intel® T557 Single LAN with Intel® (210G Gigabit Ethernet Controller</td>
<td>SoC controller for 2 SATA3 (6 Gbps ports); Quad LAN with Intel® X557 Single LAN with Intel® (210G Gigabit Ethernet Controller</td>
<td>SoC controller for 2 SATA3 (6 Gbps ports); Quad LAN with Intel® X557 Single LAN with Intel® (210G Gigabit Ethernet Controller</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Quad LAN with Intel® C3000 SoC 2 10GBaseT, 2 10G SFP+</td>
<td>Quad LAN with Intel® C3000 SoC 2 10GBaseT, 2 10G SFP+</td>
<td>Quad LAN with Intel® X557 Single LAN with Intel® (210G Gigabit Ethernet Controller</td>
<td>Quad LAN with Intel® X557 Single LAN with Intel® (210G Gigabit Ethernet Controller</td>
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<tr>
<td>Onboard VGA</td>
<td>1 VGA port, Aspeed Ast2400 BMC</td>
<td>1 VGA port, Aspeed Ast2400 BMC</td>
<td>1 VGA port, Aspeed Ast2400 BMC</td>
<td>1 VGA port, Aspeed Ast2400 BMC</td>
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<tr>
<td>USB Ports</td>
<td>4 USB 2.0 ports (4 headers, Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
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<tr>
<td>Other Board I/O Devices</td>
<td>TPM Header</td>
<td>1 COM Port (1 header)</td>
<td>1 COM Port (1 header)</td>
<td>1 COM Port (1 header)</td>
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<tr>
<td>Manageability</td>
<td>PIM2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® S, Watchdog +1.8V, +12V, +5V, 1.05 (PCH), 1.2V (VDDIMM), 4-pin fan, chassis intrusion monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, VGGI, 4x 4-pin fans (up to 4 fans), 4 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
<td>PIM2.0, NMI, SuperDoctor® S, Watchdog +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDDIMM), 3.3V standby, -6.8 -6.8, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, 6x 4-pin fans (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), 2 USB 3.0 ports (4 + 1 Type A)</td>
<td>PIM2.0, NMI, SuperDoctor® S, Watchdog +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDDIMM), 3.3V standby, -6.8 -6.8, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, 6x 4-pin fans (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
<td>PIM2.0, NMI, SuperDoctor® S, Watchdog +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDDIMM), 3.3V standby, -6.8 -6.8, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, 6x 4-pin fans (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

**Other Features**
- 12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, Innovation Engine, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS, SDCC, System level control, UID, WOL
- 12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, Innovation Engine, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS, SDCC, System level control, UID, WOL
- 8-Core Denverton Quad 10GbE LAN Intel® Quick Assist Technology IPMI
- 12-Core Denverton Quad 10GbE LAN Intel® Quick Assist Technology IPMI
- 16-Core Denverton 2x 10GbE BaseT, 2x 10Gb SFPP+ Intel® Quick Assist Technology IPMI
## Embedded

### Pico-ITX 2.5" SBC, 3.9" x 2.8" (9.91cm x 7.19cm)

<table>
<thead>
<tr>
<th>Feature</th>
<th>A2SAP-H</th>
<th>A2SAP-L</th>
<th>A2SAP-L1</th>
<th>A2SAP-E</th>
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<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Atom™ Processor E3940; up to 9.5W TDP</td>
<td>Intel® Atom™ Processor E3930; up to 6.5W TDP</td>
<td>Intel® Atom™ Processor E3940; up to 9.5W TDP</td>
<td>Intel® Atom™ Processor E3940; up to 9.5W TDP</td>
</tr>
<tr>
<td><strong>Chips</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Pico-ITX 2.5&quot; SBC, 3.9&quot; x 2.8&quot;</td>
<td>Pico-ITX 2.5&quot; SBC, 3.9&quot; x 2.8&quot;</td>
<td>Pico-ITX 2.5&quot; SBC, 3.9&quot; x 2.8&quot;</td>
<td>Pico-ITX 2.5&quot; SBC, 4&quot; x 2.83&quot; (10.16cm x 7.19cm)</td>
</tr>
<tr>
<td><strong>Optimized Chassis</strong></td>
<td>Mini 1U: SCE50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Capacity &amp; Slots</strong></td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 Half size Mini-PCI-E (USB 2.0 x 1, PCIe-E 2.0 x 1)</td>
<td>1 Half size Mini-PCI-E (USB 2.0 x 1, PCIe-E 2.0 x 1)</td>
<td>1 Half size Mini-PCI-E (USB 2.0 x 1, PCIe-E 2.0 x 1)</td>
<td>1 Half size Mini-PCI-E (USB 2.0 x 1, PCIe-E 2.0 x 1)</td>
</tr>
<tr>
<td><strong>M.2 Key</strong></td>
<td>B-Key</td>
<td>B-Key</td>
<td>B-Key</td>
<td>B-Key</td>
</tr>
<tr>
<td><strong>M.2 Form Factor</strong></td>
<td>2242, 3042</td>
<td>3042</td>
<td>2242, 3042</td>
<td>2242, 3042</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>2 USB 3.0 ports (2 rear)</td>
<td></td>
<td>2 USB 3.0 ports (2 rear)</td>
<td>2 USB 3.0 ports (2 rear)</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td></td>
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<tr>
<td><strong>Thermal Control</strong></td>
<td></td>
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<tr>
<td><strong>ACPI power management</strong></td>
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<tr>
<td><strong>ACPI power management</strong></td>
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<td><strong>ACPI power management</strong></td>
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<tr>
<td><strong>ACPI power management</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>SuperDoctor S, Watchdog +1.35V, +12V, +3.3V, 3.3V standby, Memory Voltages, System level control, WOL</td>
<td>SuperDoctor S, Watchdog +1.35V, +12V, +3.3V, 3.3V standby, Memory Voltages, System level control, WOL</td>
<td>SuperDoctor S, Watchdog +1.35V, +12V, +3.3V, 3.3V standby, Memory Voltages, System level control, WOL</td>
<td>SuperDoctor S, Watchdog +1.35V, +12V, +3.3V, 3.3V standby, Memory Voltages, System level control, WOL</td>
</tr>
</tbody>
</table>

* For detailed memory configurations please refer to Supermicro website.
Embedded

16-Core Denverton
Quad 1GbE LAN
IPMI

12-Core Denverton
Intel® Quick Assist Technology
Quad 1GbE LAN
IPMI

8-Core Denverton
Intel® Quick Assist Technology
Quad 1GbE LAN
IPMI

4-Core Denverton
Quad 1GbE LAN
IPMI

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MODEL
A2SDi-16C-HLN4F
A2SDi-16C+HLN4F
A2SDi-12C-HLN4F
A2SDi-8C+HLN4F
A2SDi-4C-HLN4F
A2SDi-2C-HLN4F

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**Processor**
Intel® Atom® Processor C3955.
Supported CPU TDP up to 32W TDP
System on Chip

**Chipset**
Mini-ITX
6.7" x 6.7" (17.02cm x 17.02cm)
SCE300

**Form Factor**
Optimized Chassis
Memory Capacity & Slots*
Up to 256GB Registered ECC RDIMM,
Up to 256GB Registered ECC RDIMM,
DDR4-2400 MHz, in 4 DIMM slots
Up to 256GB Registered ECC RDIMM,
DDR4-2400 MHz, in 4 DIMM slots

**Expansion Slots**
1 PCI-E 3.0 x4
1 PCI-E 3.0 x4
1 PCI-E 3.0 x4
1 PCI-E 3.0 x4
1 PCI-E 3.0 x4
1 PCI-E 3.0 x4

**Onboard RAID Controller**
SoC controller for 12 SATA3 (6 Gbps) ports;
SoC controller for 12 SATA3 (6 Gbps) ports;

**Onboard LAN**
Quad LAN with Intel® C3000 SoC 1GbE
Quad LAN with Intel® C3000 SoC 1GbE

**Onboard VGA**
1 VGA port
1 VGA port

**USB Ports**
1 USB 3.0 ports (1 Type A)
2 USB 3.0 ports (2 rear + 2 headers)

**Other Onboard I/O Devices**
TPM Header
1 COM Port (1 header)

**Management**
IPMI2.0, KVM with dedicated LAN;
IPMI2.0, KVM with dedicated LAN;

**PC Health Monitoring**
Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT
Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT

**Thermal Control**
4 x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Critical thermal control tachometer fan connectors

**Other Features**
12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion detection, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, Innovation Engine, M.2 NGFF connector, ROHS, SDDC, System level control, UID, WOL
12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion detection, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, Innovation Engine, Intel® QuickAssist Technology, M.2 NGFF connector, ROHS, SDDC, System level control, UID, WOL

**BIOS**
AMI UEFI
AMI UEFI
AMI UEFI
AMI UEFI
AMI UEFI
AMI UEFI
### BIOS

#### Other Features
- 12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Innovation Engine, Rohs, SddC, System level control, Uid, WOL
- 12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Innovation Engine, Rohs, SddC, System level control, Uid, WOL

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### Embedded

#### Denverton

**12-Core, Dual/Quad 10GbE LAN, Intel® QAT, IPMI**

<table>
<thead>
<tr>
<th>Model</th>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Memory</th>
<th>BIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2SDi-TP8F</td>
<td>Intel® Atom® Processor C3858B, FCBGA1310 supported, CPU TDP support 25W</td>
<td>System on Chip</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>AMI UEFI</td>
</tr>
<tr>
<td>A2SDi-LN4F</td>
<td>Intel® Atom® Processor C3850; Single Socket FCBGA1310 supported, CPU TDP support 25W</td>
<td>System on Chip</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>AMI UEFI</td>
</tr>
<tr>
<td>A2SDi-H-TF</td>
<td>Intel® Atom® Processor C3958B, 25W; Single Socket FCBGA1310 supported</td>
<td>System on Chip</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

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### Innovation Engine, RoHS, SDDC, System trip support for processor protection

- **Thermal Control**
  - Monitors CPU voltages, Supports system monitoring, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Innovation Engine, Rohs, SddC, System level control, Uid, WOL
  - Monitors CPU voltages, Supports system monitoring, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Innovation Engine, Rohs, SddC, System level control, Uid, WOL

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### Denverton

**8/16-Core, Quad 10GbE LAN, Intel® QAT/IPMI**

<table>
<thead>
<tr>
<th>Model</th>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Memory</th>
<th>BIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2SDi-TP8F</td>
<td>Intel® Atom® Processor C3850; Single Socket FCBGA1310 supported, CPU TDP support 25W</td>
<td>System on Chip</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>AMI UEFI</td>
</tr>
<tr>
<td>A2SDi-LN4F</td>
<td>Intel® Atom® Processor C3958B, 25W; Single Socket FCBGA1310 supported</td>
<td>System on Chip</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>AMI UEFI</td>
</tr>
<tr>
<td>A2SDi-H-TF</td>
<td>Intel® Atom® Processor C3958B, 31W; Single Socket FCBGA1310 supported</td>
<td>System on Chip</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

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### Denverton

**5G/Edge/IoT/Embedded Building Block Solutions - May 2023**
MODEL | A2SAV | A2SAV-L | A2SAV-2C-L | X11SAA
--- | --- | --- | --- | ---
Processor* | Intel® Atom® Processor E3940. Single Socket FCBGA1296 supported, CPU TDP support up to 9W TDP | Intel® Atom® Processor E3930. Single Socket FCBGA1296 supported, CPU TDP support up to 9W TDP | Intel® Pentium® Processor N4200. Single Socket FCBGA1296 supported, CPU TDP support up to 6W TDP | Intel® Pentium® Processor N4200. Single Socket FCBGA1296 supported, CPU TDP support up to 6W TDP
Chipset System on Chip | System on Chip | System on Chip | System on Chip | System on Chip
Form Factor | Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm) | Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm) | Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm) | Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm)
Optimized Chassis | SC101S | SC101i | SC101S | SC101i
Memory Capacity & Slots* | Up to, DDR3-1866 MHz, in 1 DIMM slot | Up to, DDR3-1866 MHz, in 1 DIMM slot | Up to 8GB 1866 MHz DDR3L Non-ECC SO-DIMM in 1 socket | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866 MHz, in 1 DIMM slot
Expansion Slots | 1 PCI-E 2.0 x2 (in x8 slot) | 1 PCI-E 2.0 x2 (in x8 slot) | 1 PCI-E 2.0 x2 (in x8 slot) | 1 PCI-E 2.0 x2 (in x8 slot)
Onboard RAID Controller | Intel® Atom® Processor E3940. Single Socket FCBGA1296 supported, CPU TDP support up to 9W TDP | Intel® Atom® Processor E3930. Single Socket FCBGA1296 supported, CPU TDP support up to 9W TDP | Intel® Pentium® Processor N4200. Single Socket FCBGA1296 supported, CPU TDP support up to 6W TDP | Intel® Pentium® Processor N4200. Single Socket FCBGA1296 supported, CPU TDP support up to 6W TDP
Onboard LAN | Dual LAN with Intel® Ethernet Controller I210T | Dual LAN with Intel® Ethernet Controller I210T | Dual LAN with Intel® Ethernet Controller I210T | Dual LAN with Intel® Ethernet Controller I210T
Onboard VGA | 1 DP (DisplayPort) port, 1 HDMI port, Intel® HD Graphics | 1 DP (DisplayPort) port, 1 HDMI port, Intel® HD Graphics | 1 DP (DisplayPort) port, 1 HDMI port, Intel® HD Graphics | 1 DP (DisplayPort) port, 1 HDMI port, Intel® HD Graphics
USB Ports | 8 USB 2.0 ports (2 rear + 5 headers + 1 Type A) | 1 USB 2.0 port (2 rear + 5 headers) | 4 USB 2.0 ports (2 rear + 2 headers) | 8 USB 2.0 ports (2 rear + 5 headers + 1 Type A) | 1 USB 3.0 ports (2 rear)
Other OnBoard I/O Devices | 1 Port SuperDOM, ALC 888S HD Audio, 3 COM Ports (1 rear, 2 headers), 1x COM in RS45, 1x COM in RS232, and 1x COM in RS485. | 1 Port SuperDOM, 3 COM Ports (1 rear, 2 headers), 1x COM in RS45, 1x COM in RS232, and 1x COM in RS485. | 1 Port SuperDOM, 3 COM Ports (1 rear, 2 headers), 1x COM in RS45, 1x COM in RS232, and 1x COM in RS485. | 1 Port SuperDOM, ALC 888S HD Audio, TPM Header, 3 COM Ports (1 rear, 2 headers), 1x COM in RJ45, 1x COM in RS232, and 1x COM in RS485.
Manageability | SuperDoctor’ 5, Watchdog | SuperDoctor’ 5, Watchdog | SuperDoctor’ 5, Watchdog | SuperDoctor’ 5, Watchdog
PC Health Monitoring | +1.8V, +12V, +3.3V, +5V, +5V standby, Monitors CPU voltages, System level control | +12V, +5V, +5V standby | +12V, +5V, +5V standby | +1.8V, +12V, +3.3V, +5V, +5V standby, Monitors CPU voltages, System level control
Thermal Control | 2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control, tachometer fan connectors | 2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control | 2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control | 2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control, tachometer fan connectors
BIOS | AMI UEFI | AMI UEFI | AMI UEFI | AMI UEFI

* Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.

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**Notes:**
- M.2 Key: M-Key
- M.2 Form Factor: 22x22, 22x80
- M.2 Form Factor: 22x42, 22x80
- M.2 Form Factor: 22x42, 22x80
- M.2 Form Factor: 22x42, 22x80

**Supported Processors:**
- Intel® Atom® Processor E3940
- Intel® Atom® Processor E3930
- Intel® Pentium® Processor N4200
- Intel® Pentium® Processor N4200

**Supported Chipsets:**
- System on Chip
- System on Chip
- System on Chip
- System on Chip

**Supported Form Factors:**
- Mini-ITX
- Mini-ITX
- Mini-ITX
- Mini-ITX

**Supported Memory:**
- Up to, DDR3-1866 MHz, in 1 DIMM slot
- Up to, DDR3-1866 MHz, in 1 DIMM slot
- Up to 8GB 1866 MHz DDR3L Non-ECC SO-DIMM in 1 socket
- Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866 MHz, in 1 DIMM slot

**Supported USB Ports:**
- 8 USB 2.0 ports (2 rear + 5 headers + 1 Type A)
- 1 USB 2.0 port (2 rear + 5 headers)
- 4 USB 2.0 ports (2 rear + 2 headers)
- 8 USB 2.0 ports (2 rear + 5 headers + 1 Type A)
- 1 USB 3.0 ports (2 rear)

**Supported Onboard Raid Controllers:**
- Intel® Atom® Processor E3940
- Intel® Atom® Processor E3930
- Intel® Pentium® Processor N4200
- Intel® Pentium® Processor N4200

**Supported Onboard LANS:**
- Dual LAN with Intel® Ethernet Controller I210T
- Dual LAN with Intel® Ethernet Controller I210T
- Dual LAN with Intel® Ethernet Controller I210T
- Dual LAN with Intel® Ethernet Controller I210T

**Supported Onboard VGAs:**
- 1 DP (DisplayPort) port, 1 HDMI port, Intel® HD Graphics
- 1 DP (DisplayPort) port, 1 HDMI port, Intel® HD Graphics
- 1 DP (DisplayPort) port, 1 HDMI port, Intel® HD Graphics
- 1 DP (DisplayPort) port, 1 HDMI port, Intel® HD Graphics

**Supported USB Ports:**
- 8 USB 2.0 ports (2 rear + 5 headers + 1 Type A)
- 1 USB 2.0 port (2 rear + 5 headers)
- 4 USB 2.0 ports (2 rear + 2 headers)
- 8 USB 2.0 ports (2 rear + 5 headers + 1 Type A)
- 1 USB 3.0 ports (2 rear)

**Supported Other OnBoard I/O Devices:**
- 1 Port SuperDOM, ALC 888S HD Audio, 3 COM Ports (1 rear, 2 headers), 1x COM in RS45, 1x COM in RS232, and 1x COM in RS485.
- 1 Port SuperDOM, 3 COM Ports (1 rear, 2 headers), 1x COM in RS45, 1x COM in RS232, and 1x COM in RS485.
- 1 Port SuperDOM, 3 COM Ports (1 rear, 2 headers), 1x COM in RS45, 1x COM in RS232, and 1x COM in RS485.
- 1 Port SuperDOM, ALC 888S HD Audio, TPM Header, 3 COM Ports (1 rear, 2 headers), 1x COM in RJ45, 1x COM in RS232, and 1x COM in RS485.

**Supported BIOS:**
- AMI UEFI
- AMI UEFI
- AMI UEFI
- AMI UEFI

**Supported Thermal Control:**
- Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control, tachometer fan connectors
- Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control, tachometer fan connectors
- Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control, tachometer fan connectors
- Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control, tachometer fan connectors

**Supported Other Features:**
- 4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL
- 4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL
- 4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL
- 12V DC or ATX Power Source, 4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL
<table>
<thead>
<tr>
<th>MODEL</th>
<th>A2SAN-LN4-E</th>
<th>A2SAN-LN4-C</th>
<th>X11SAN-WOHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor†</td>
<td>Intel® Atom® Processor E3940; up to 9.5W TDP</td>
<td>Intel® Celeron® Processor J3455; up to 10W TDP</td>
<td>Intel® Pentium™ Processor N4200; up to 6W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>3.5” SBC, 5.866” x 4.17” (14.9cm x 10.6cm)</td>
<td>3.5” SBC, 5.87” x 4.17” (14.9cm x 10.6cm)</td>
<td>3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
</tr>
<tr>
<td>Memory</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866MHz, in 1 DIMM slot</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866MHz, in 1 DIMM slot</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866MHz, in 1 DIMM slot</td>
</tr>
<tr>
<td>Capacity &amp;</td>
<td>M.2 Key: B-Key, E-Key, 1 M.2 2242/3042 B-Key (USB3.0/2.0 x 1) with nano SIM holder (support SATA upon request)</td>
<td>M.2 Key: B-Key, E-Key, 1 M.2 2242/3042 B-Key (USB3.0/2.0 x 1) with nano SIM holder (support SATA upon request)</td>
<td>1 Full size Mini-PCI-E (USB2.0 1,PCI-E Gen2 x 1) M.2 Interface: SATA and PCI-E 2.0 x1 and USB 2.0 M.2 Form Factor: 2280 M.2 Key: B-Key</td>
</tr>
<tr>
<td>Slots*</td>
<td>Onboard RAID Controller</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports; Quad LAN with Intel® Ethernet Controller I210T</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports; Dual LAN with Intel® Ethernet Controller I211-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 HDMI port, Intel® HD Graphics</td>
<td>1 HDMI port, Intel® HD Graphics</td>
<td>1 VGA port, 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 2.0 ports (2 via headers) 2 USB 3.2 Gen1 ports (2 rear)</td>
<td>2 USB 2.0 ports (2 via headers) 2 USB 3.2 Gen1 ports (2 rear)</td>
<td>4 USB 2.0 ports (4 via headers) 2 USB 3.2 Gen1 ports (2 rear) 1 USB 3.2 Gen2 ports</td>
</tr>
<tr>
<td>Other Onboard</td>
<td>1 COM Port (1 header); (1 x RS232) 1 SMBus header 1 System Fan 4 onboard M.2 active LED 4 onboard GBE LAN active LED</td>
<td>1 COM Port (1 header); (1 x RS232) 1 SMBus header 1 System Fan 4 onboard M.2 active LED 4 onboard GBE LAN active LED</td>
<td>4-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature</td>
</tr>
<tr>
<td>I/O Devices</td>
<td>Manageability</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td></td>
<td>PC Health Monitoring</td>
<td>+1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCIG</td>
<td>+1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCIG</td>
</tr>
<tr>
<td></td>
<td>Thermal Control</td>
<td>8-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature</td>
<td>8-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance. For detailed memory configurations please refer to Supermicro website.
### Embedded Compact Chassis:

- **Model**: A2SAN-H, A2SAN-H-WOHS, A2SAN-E(-WOHS), A2SAN-L(-WOHS)
- **Form Factor**: 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)

<table>
<thead>
<tr>
<th><strong>Feature</strong></th>
<th><strong>A2SAN-H</strong></th>
<th><strong>A2SAN-H-WOHS</strong></th>
<th><strong>A2SAN-E(-WOHS)</strong></th>
<th><strong>A2SAN-L(-WOHS)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Atom® Processor E3940; up to 9.5W TDP</td>
<td>Intel® Atom® Processor E3940; up to 9.5W TDP</td>
<td>Intel® Atom® Processor E3930; up to 6.5W TDP</td>
<td>Intel® Atom® Processor E3930; up to 6.5W TDP</td>
</tr>
<tr>
<td><strong>Chips</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
</tr>
<tr>
<td><strong>Optimized Chassis</strong></td>
<td>Embedded Compact Chassis: SCE101</td>
<td>Embedded Compact Chassis: SCE101</td>
<td>Embedded Compact Chassis: SCE101</td>
<td>Embedded Compact Chassis: SCE101</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866 MHz, in 1 DIMM slot</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866 MHz, in 1 DIMM slot</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866 MHz, in 1 DIMM slot</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866 MHz, in 1 DIMM slot</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 Full size Mini-PCI-E (USB2.0 x 1, PCI-E 2.0 x1)</td>
<td>1 M.2 2280 B-Key (PCI-E 2.0 x1, SATA x1)</td>
<td>1 M.2 2280 B-Key (PCI-E 2.0 x1, SATA x1)</td>
<td>1 Full size Mini-PCI-E (USB2.0 x 1, PCI-E 2.0 x1)</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
<td>Dual LAN with Intel® Ethernet Controller I210IT</td>
<td>Dual LAN with Intel® Ethernet Controller I210IT</td>
<td>Dual LAN with Intel® Ethernet Controller I210IT</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics</td>
<td>1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics</td>
<td>1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics</td>
<td>1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2.0 ports (4 via headers, Type A)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers, Type A)</td>
<td>4 USB 2.0 ports (4 via headers, Type A)</td>
</tr>
<tr>
<td><strong>I/O Devices</strong></td>
<td>ALC888S HD Audio</td>
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</tbody>
</table>

*Supermicro chassis required for optimal functionality and performance.

*For detailed memory configurations please refer to Supermicro website.
## 2/4/8/10 Core mITX
**Quad 1GbE/IPMI**

### Communication
**Rangeley**

### Optimized Chassis
- **SC10i**: (6.75"W x 6.75"H)
- **SC504-203B**
- **SC721TQ-250B**
- **SC731i-300B**

### Memory Capacity & Slots*
- **2758/2558**: up to 64GB Unbuffered ECC SO-DIMM, DDR3-1600 MHz, in 4 slots;
- **2358**: up to 16GB Unbuffered ECC SO-DIMM, DDR3-1333MHz, in 2 slots

### Expansion Slots
- **1 PCI-E 2.0 x8**

### Onboard RAID Controller
- **2758/2558**: SoC controller for 4 SATA2 (3Gb/s) ports; 2 SATA3 (6Gb/s);
- **2358**: 2 SATA3 (6Gb/s); 2 SATA2 (3Gb/s)

### Onboard LAN
- **Quad LAN with Intel® C2000 SoC i354**

### Onboard VGA
- **VGA, Aspeed AST2400 BMC**

### USB Ports
- **4 USB 3.0 ports (2 rear + 1 via header + 1 Type A); 2 USB 2.0 ports (2 rear)**
- **7 USB 2.0 ports (4 rear + 2 via headers + 1 Type A)**

### Other Onboard I/O Devices
- **1 SATA DOM power connector**
- **2 COM Ports (1 rear, 1 header)**
- **TPM header**

### Manageability
- **IPMI 2.0 + KVM with dedicated LAN, NMI, SuperDoctor® 5, SSM, Watchdog**

### PC Health Monitoring
- **Monitors CPU voltages, +1.8V, +12V, +3.3V, +5V, +5V Standby, Chassis intrusion header, Supports system management utility, System level control**
- **+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Supports system management utility, System level control**

### Thermal Control
- **3 4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors**
- **3x 4-pin fan headers (up to 3 fans), Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors**

### Other Features
- **4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, UID, WOL, 0°C - 60°C operating temperature, Intel® QuickAssist Technology**
- **ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, System level control, UID, WOL**

### BIOS
- **AMI UEFI**

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1. Supermicro chassis required for optimal functionality and performance.
2. For detailed memory configurations please refer to Supermicro website.
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APAC
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Supermicro’s system integration facility and services in The Netherlands serves the dynamic, rapidly growing EMEA market with localized supply and time-to-market advantages

Silicon Valley
Expanded manufacturing, command center

Supermicro Science & Technology Park is a key milestone in the company’s growth as a true global leader in the development of advanced, power saving computing technologies

Silicon Valley
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